# LIST OF TABULAR QUESTIONS

## **********BEGINNING OF BOOK 2**********

443 The tankship Northland is loaded as shown. Use the salmon colored pages in the Stability Data Reference Book to determine the hogging numeral.

**LONGITUDINAL BENDING STRESSES (PSI)**

| DESCRIPTION | |
|---|---|
| 1. FORE PEAK | 0 |
| 2. DEEP TANK P/S | 0 |
| 3. FWD STORES | 6 |
| 4. FWD BUNKERS | 1600 |
| 5. FWD COFFERDAM | 0 |
| 6. #1 CARGO TANK | 5229 |
| 7. #2 CARGO TANK | 5193 |
| 8. #3 CARGO TANK | 4229 |
| 9. #4 CARGO TANK | 5116 |
| 10. BRIDGE CREW | 3 |
| 11. BRIDGE STORES | 12 |
| 12. BRIDGE F.W. | 15 |
| 13. #5 CARGO TANK | 2956 |
| 14. #6 BALLAST TANK | 1628 |
| 15. #7 CARGO/BALLAST TANK | 0 |
| 16. #8 CARGO/BALLAST TANK | 0 |
| 17. #9 CARGO/BALLAST TANK | 6012 |
| 18. #10 CARGO TANK | 5417 |
| 19. #11 CARGO TANK | 3257 |
| 20. AFT COFFERDAM | 0 |
| 21. AFT BUNKERS | 900 |
| 22. AFT SETTLERS | 325 |
| 23. DISTILLED WATER | 56 |
| 24. AFT STORES | 75 |
| 25. AFT CREW | 7 |
| 26. F.W. AFT | 57 |
| 27. AFT PEAK | 375 |

A. 86.72 numeral
B. 89.98 numeral
C. 91.40 numeral
D. 93.18 numeral

ANS. C

992 The tankship Northland is loaded as shown. Use the salmon colored pages in the Stability Data Reference Book to determine the sagging numeral.

**LONGITUDINAL BENDING STRESSES (PSI)**

| DESCRIPTION | |
|---|---|
| 1. FORE PEAK | 0 |
| 2. DEEP TANK P/S | 0 |
| 3. FWD STORES | 6 |
| 4. FWD BUNKERS | 1600 |
| 5. FWD COFFERDAM | 0 |
| 6. #1 CARGO TANK | 5229 |
| 7. #2 CARGO TANK | 5193 |
| 8. #3 CARGO TANK | 4229 |
| 9. #4 CARGO TANK | 5116 |
| 10. BRIDGE CREW | 3 |
| 11. BRIDGE STORES | 12 |
| 12. BRIDGE F.W. | 15 |
| 13. #5 CARGO TANK | 2956 |
| 14. #6 BALLAST TANK | 1628 |
| 15. #7 CARGO/BALLAST TANK | 0 |
| 16. #8 CARGO/BALLAST TANK | 0 |
| 17. #9 CARGO/BALLAST TANK | 6012 |
| 18. #10 CARGO TANK | 5417 |
| 19. #11 CARGO TANK | 3257 |
| 20. AFT COFFERDAM | 0 |
| 21. AFT BUNKERS | 900 |
| 22. AFT SETTLERS | 325 |
| 23. DISTILLED WATER | 56 |
| 24. AFT STORES | 75 |
| 25. AFT CREW | 7 |
| 26. F.W. AFT | 57 |
| 27. AFT PEAK | 375 |

A. 29.49 numeral
B. 31.97 numeral
C. 33.61 numeral
D. 35.12 numeral

ANS. B

1015 The tankship Northland is loaded as shown. Use the salmon colored pages in the Stability Data Reference to determine the sagging numeral.

**LONGITUDINAL BENDING STRESSES (PSI)**

| | |
|---|---|
| 1. FORE PEAK | 0 |
| 2. DEEP TANK P/S | 0 |
| 3. FWD STORES | 6 |
| 4. FWD BUNKERS | 1600 |
| 5. FWD COFFERDAM | 0 |
| 6. #1 CARGO TANK | 5229 |
| 7. #2 CARGO TANK | 5193 |
| 8. #3 CARGO TANK | 4229 |
| 9. #4 CARGO TANK | 5116 |
| 10. BRIDGE CREW | 3 |
| 11. BRIDGE STORES | 12 |
| 12. BRIDGE F.W. | 15 |
| 13. #5 CARGO TANK | 3956 |
| 14. #6 BALLAST TANK | 1628 |
| 15. #7 CARGO/BALLAST TANK | 5929 |
| 16. #8 CARGO/BALLAST TANK | 6012 |
| 17. #9 CARGO/BALLAST TANK | 0 |
| 18. #10 CARGO TANK | 5417 |
| 19. #11 CARGO TANK | 3257 |
| 20. AFT COFFERDAM | 0 |
| 21. AFT BUNKERS | 900 |
| 22. AFT SETTLERS | 325 |
| 23. DISTILLED WATER | 56 |
| 24. AFT STORES | 75 |
| 25. AFT CREW | 7 |
| 26. F.W. AFT | 57 |
| 27. AFT PEAK | 375 |

A. 71.07 numeral
B. 74.95 numeral
C. 77.56 numeral
D. 78.29 numeral

ANS. D

1502 The tankship Northland is loaded as shown. Use the salmon colored pages in the Stability Data Reference Book to determine the hogging numeral.

**LONGITUDINAL BENDING STRESSES (PSI)**

| | |
|---|---|
| 1. FORE PEAK | 0 |
| 2. DEEP TANK P/S | 0 |
| 3. FWD STORES | |
| 4. FWD BUNKERS | 1600 |
| 5. FWD COFFERDAM | 0 |
| 6. #1 CARGO TANK | 5229 |
| 7. #2 CARGO TANK | 5193 |
| 8. #3 CARGO TANK | 4229 |
| 9. #4 CARGO TANK | 5116 |
| 10. BRIDGE CREW | 3 |
| 11. BRIDGE STORES | 12 |
| 12. BRIDGE F.W. | 15 |
| 13. #5 CARGO TANK | 3956 |
| 14. #6 BALLAST TANK | 1628 |
| 15. #7 CARGO/BALLAST TANK | 5929 |
| 16. #8 CARGO/BALLAST TANK | 6012 |
| 17. #9 CARGO/BALLAST TANK | 0 |
| 18. #10 CARGO TANK | 5417 |
| 19. #11 CARGO TANK | 3257 |
| 20. AFT COFFERDAM | 0 |
| 21. AFT BUNKERS | 900 |
| 22. AFT SETTLERS | 325 |
| 23. DISTILLED WATER | 56 |
| 24. AFT STORES | 75 |
| 25. AFT CREW | 7 |
| 26. F.W. AFT | 57 |
| 27. AFT PEAK | 375 |

A. 49.73 numeral
B. 52.76 numeral
C. 55.29 numeral
D. 57.93 numeral

ANS. A

2051 The tankship Northland is loaded as shown. Use the salmon colored pages in the Stability Data Reference Book to determine the sagging numeral.

**LONGITUDINAL BENDING STRESSES (PSI)**

| DESCRIPTION | |
|---|---|
| 1. FORE PEAK | 0 |
| 2. DEEP TANK P/S | 0 |
| 3. FWD STORES | 6 |
| 4. FWD BUNKERS | 1600 |
| 5. FWD COFFERDAM | 0 |
| 6. #1 CARGO TANK | 4659 |
| 7. #2 CARGO TANK | 5280 |
| 8. #3 CARGO TANK | 5498 |
| 9. #4 CARGO TANK | 0 |
| 10. BRIDGE CREW | 3 |
| 11. BRIDGE STORES | 12 |
| 12. BRIDGE F.W. | 10 |
| 13. #5 CARGO TANK | 5196 |
| 14. #6 BALLAST TANK | 2400 |
| 15. #7 CARGO/BALLAST TANK | 5319 |
| 16. #8 CARGO/BALLAST TANK | 5400 |
| 17. #9 CARGO/BALLAST TANK | 6000 |
| 18. #10 CARGO TANK | 5361 |
| 19. #11 CARGO TANK | 4952 |
| 20. AFT COFFERDAM | 0 |
| 21. AFT BUNKERS | 850 |
| 22. AFT SETTLERS | 360 |
| 23. DISTILLED WATER | 50 |
| 24. AFT STORES | 75 |
| 25. AFT CREW | 7 |
| 26. F.W. AFT | 57 |
| 27. AFT PEAK | 0 |

A. 81.79 numeral
B. 85.02 numeral
C. 89.68 numeral
D. 91.92 numeral

ANS. D

2176 The tankship Northland is loaded as shown. Use the salmon colored pages in the Stability Data Reference Book to determine the hogging numeral.

**LONGITUDINAL BENDING STRESSES (PSI)**

| DESCRIPTION | |
|---|---|
| 1. FORE PEAK | 749 |
| 2. DEEP TANK P/S | 1747 |
| 3. FWD STORES | 6 |
| 4. FWD BUNKERS | 2867 |
| 5. FWD COFFERDAM | 338 |
| 6. #1 CARGO TANK | 0 |
| 7. #2 CARGO TANK | 0 |
| 8. #3 CARGO TANK | 0 |
| 9. #4 CARGO TANK | 0 |
| 10. BRIDGE CREW | 3 |
| 11. BRIDGE STORES | 10 |
| 12. BRIDGE F.W. | 10 |
| 13. #5 CARGO TANK | 0 |
| 14. #6 BALLAST TANK | 2595 |
| 15. #7 CARGO/BALLAST TANK | 3315 |
| 16. #8 CARGO/BALLAST TANK | 2595 |
| 17. #9 CARGO/BALLAST TANK | 2595 |
| 18. #10 CARGO TANK | 0 |
| 19. #11 CARGO TANK | 0 |
| 20. AFT COFFERDAM | 239 |
| 21. AFT BUNKERS | 859 |
| 22. AFT SETTLERS | 360 |
| 23. DISTILLED WATER | 60 |
| 24. AFT STORES | 80 |
| 25. AFT CREW | 7 |
| 26. F.W. AFT | 71 |
| 27. AFT PEAK | 394 |

A. 91.42 numeral
B. 85.60 numeral
C. 79.23 numeral
D. 74.73 numeral

ANS. C

2560 The tankship Northland is loaded as shown. Use the salmon colored pages in the Stability Data Reference Book to determine the hogging numeral.

**LONGITUDINAL BENDING STRESSES (PSI)**

| DESCRIPTION | |
|---|---|
| 1. FORE PEAK | 0 |
| 2. DEEP TANK P/S | 0 |
| 3. FWD STORES | 6 |
| 4. FWD BUNKERS | 1600 |
| 5. FWD COFFERDAM | 0 |
| 6. #1 CARGO TANK | 4759 |
| 7. #2 CARGO TANK | 5288 |
| 8. #3 CARGO TANK | 5463 |
| 9. #4 CARGO TANK | 0 |
| 10. BRIDGE CREW | 3 |
| 11. BRIDGE STORES | 10 |
| 12. BRIDGE F.W. | 10 |
| 13. #5 CARGO TANK | 5486 |
| 14. #6 BALLAST TANK | 2408 |
| 15. #7 CARGO/BALLAST TANK | 5446 |
| 16. #8 CARGO/BALLAST TANK | 2410 |
| 17. #9 CARGO/BALLAST TANK | 5454 |
| 18. #10 CARGO TANK | 5349 |
| 19. #11 CARGO TANK | 5026 |
| 20. AFT COFFERDAM | 0 |
| 21. AFT BUNKERS | 800 |
| 22. AFT SETTLERS | 360 |
| 23. DISTILLED WATER | 50 |
| 24. AFT STORES | 75 |
| 25. AFT CREW | 7 |
| 26. F.W. AFT | 65 |
| 27. AFT PEAK | 0 |

A. 101.02 numeral
B. 91.36 numeral
C. 72.43 numeral
D. 52.60 numeral

ANS. D

2734 The tankship Northland is loaded as shown. Use the salmon colored pages in the Stability book to determine the hogging numeral.

**LONGITUDINAL BENDING STRESSES (PSI)**

| DESCRIPTION | |
|---|---|
| 1. FORE PEAK | 0 |
| 2. DEEP TANK P/S | 0 |
| 3. FWD STORES | 6 |
| 4. FWD BUNKERS | 2867 |
| 5. FWD COFFERDAM | 0 |
| 6. #1 CARGO TANK | 3596 |
| 7. #2 CARGO TANK | 3996 |
| 8. #3 CARGO TANK | 4128 |
| 9. #4 CARGO TANK | 4146 |
| 10. BRIDGE CREW | 0 |
| 11. BRIDGE STORES | 0 |
| 12. BRIDGE F.W. | 0 |
| 13. #5 CARGO TANK | 0 |
| 14. #6 BALLAST TANK | 0 |
| 15. #7 CARGO/BALLAST TANK | 1821 |
| 16. #8 CARGO/BALLAST TANK | 2328 |
| 17. #9 CARGO/BALLAST TANK | 2303 |
| 18. #10 CARGO TANK | 4042 |
| 19. #11 CARGO TANK | 3798 |
| 20. AFT COFFERDAM | 0 |
| 21. AFT BUNKERS | 850 |
| 22. AFT SETTLERS | 340 |
| 23. DISTILLED WATER | 60 |
| 24. AFT STORES | 80 |
| 25. AFT CREW | 7 |
| 26. F.W. AFT | 70 |
| 27. AFT PEAK | 0 |

A. 98.23 numeral
B. 95.70 numeral
C. 84.46 numeral
D. 81.37 numeral

ANS. B

3208 The tankship Northland is loaded as shown. Use the salmon colored pages in the Stability Data Reference Book to determine the sagging numeral.

**LONGITUDINAL BENDING STRESSES (PSI)**

| DESCRIPTION | |
|---|---|
| 1. FORE PEAK | 0 |
| 2. DEEP TANK P/S | 0 |
| 3. FWD STORES | 6 |
| 4. FWD BUNKERS | 1600 |
| 5. FWD COFFERDAM | 0 |
| 6. #1 CARGO TANK | 4759 |
| 7. #2 CARGO TANK | 5288 |
| 8. #3 CARGO TANK | 5463 |
| 9. #4 CARGO TANK | 0 |
| 10. BRIDGE CREW | 3 |
| 11. BRIDGE STORES | 10 |
| 12. BRIDGE F.W. | 10 |
| 13. #5 CARGO TANK | 5486 |
| 14. #6 BALLAST TANK | 2408 |
| 15. #7 CARGO/BALLAST TANK | 5446 |
| 16. #8 CARGO/BALLAST TANK | 2410 |
| 17. #9 CARGO/BALLAST TANK | 5454 |
| 18. #10 CARGO TANK | 5349 |
| 19. #11 CARGO TANK | 5026 |
| 20. AFT COFFERDAM | 0 |
| 21. AFT BUNKERS | 800 |
| 22. AFT SETTLERS | 360 |
| 23. DISTILLED WATER | 50 |
| 24. AFT STORES | 75 |
| 25. AFT CREW | 7 |
| 26. F.W. AFT | 65 |
| 27. AFT PEAK | 0 |

A. 72.42 numeral
B. 78.98 numeral
C. 83.46 numeral
D. 91.48 numeral

ANS. B

3776 The tankship Northland is loaded as shown. Use the salmon colored pages in the Stability Data Reference Book to determine the sagging numeral.

**LONGITUDINAL BENDING STRESSES (PSI)**

| DESCRIPTION | |
|---|---|
| 1. FORE PEAK | 749 |
| 2. DEEP TANK P/S | 1747 |
| 3. FWD STORES | 6 |
| 4. FWD BUNKERS | 2867 |
| 5. FWD COFFERDAM | 338 |
| 6. #1 CARGO TANK | 0 |
| 7. #2 CARGO TANK | 0 |
| 8. #3 CARGO TANK | 0 |
| 9. #4 CARGO TANK | 0 |
| 10. BRIDGE CREW | 3 |
| 11. BRIDGE STORES | 10 |
| 12. BRIDGE F.W. | 10 |
| 13. #5 CARGO TANK | 0 |
| 14. #6 BALLAST TANK | 2595 |
| 15. #7 CARGO/BALLAST TANK | 3315 |
| 16. #8 CARGO/BALLAST TANK | 2595 |
| 17. #9 CARGO/BALLAST TANK | 2595 |
| 18. #10 CARGO TANK | 0 |
| 19. #11 CARGO TANK | 0 |
| 20. AFT COFFERDAM | 239 |
| 21. AFT BUNKERS | 859 |
| 22. AFT SETTLERS | 360 |
| 23. DISTILLED WATER | 60 |
| 24. AFT STORES | 80 |
| 25. AFT CREW | 7 |
| 26. F.W. AFT | 71 |
| 27. AFT PEAK | 394 |

A. 29.70 numeral
B. 33.63 numeral
C. 49.82 numeral
D. 58.33 numeral

ANS. A

4056 The tankship Northland is loaded as shown. Use the salmon colored pages in the Stability Data Reference Book to determine the sagging numeral.

**LONGITUDINAL BENDING STRESSES (PSI)**

| DESCRIPTION | |
|---|---|
| 1. FORE PEAK | 0 |
| 2. DEEP TANK P/S | 0 |
| 3. FWD STORES | 6 |
| 4. FWD BUNKERS | 2867 |
| 5. FWD COFFERDAM | 0 |
| 6. #1 CARGO TANK | 3596 |
| 7. #2 CARGO TANK | 3996 |
| 8. #3 CARGO TANK | 4128 |
| 9. #4 CARGO TANK | 4146 |
| 10. BRIDGE CREW | 0 |
| 11. BRIDGE STORES | 0 |
| 12. BRIDGE F.W. | 0 |
| 13. #5 CARGO TANK | 0 |
| 14. #6 BALLAST TANK | 0 |
| 15. #7 CARGO/BALLAST TANK | 1821 |
| 16. #8 CARGO/BALLAST TANK | 2328 |
| 17. #9 CARGO/BALLAST TANK | 2303 |
| 18. #10 CARGO TANK | 4042 |
| 19. #11 CARGO TANK | 3798 |
| 20. AFT COFFERDAM | 0 |
| 21. AFT BUNKERS | 850 |
| 22. AFT SETTLERS | 340 |
| 23. DISTILLED WATER | 60 |
| 24. AFT STORES | 80 |
| 25. AFT CREW | 7 |
| 26. F.W. AFT | 70 |
| 27. AFT PEAK | 0 |

A. 89.75 numeral
B. 40.18 numeral
C. 28.62 numeral
D. 22.44 numeral

ANS. D

**************END OF BOOK TWO**************

# LIST OF TABULAR QUESTIONS

## **********BEGINNING OF BOOK 4**********

64 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

| | |
|---|---|
| Deck cargo | 170 Tons |
| Upper tween deck layer | 1800 Tons |
| Lower tween deck layer | 2000 Tons |
| Hold layer | 3200 Tons |

A. 338 tons
B. 309 tons
C. 281 tons
D. 263 tons

ANS. D

151 You are on a supply run to an offshore drilling rig. On board is the cargo listed. What is the height above the main deck of the center of gravity of the cargo?

I. 50 drums of cement. Each drum weighs 600 pounds and is stowed on end. Each drum measures 28 inches in diameter and is 32 inches high.

II. Two reels of 1 inch diameter wire rope. Each reel contains 3000 linear feet of wire weighing 1.55 pounds per linear foot. The tare weight of each reel is 450 pounds. The reels are stowed on the flat and are 36 inches high.

III. Twelve pallets of general supplies. Each pallet measures 8'L X 4'W X 3'H. The pallets are stowed singly and weigh 580 pounds each.

IV. Twelve crates of machine parts and pipe fittings. Each weighs 880 pounds. Each crate measures 8'L X 3'W X 4'H and is stowed singly.

A. 1.50 feet
B. 1.96 feet
C. 2.21 feet
D. 2.78 feet

ANS. A

161 You are on a supply run to an offshore drilling rig. On board is the cargo listed. What is the height above the main deck of the center of gravity of the cargo?

I. Drill casing - 16 inches in diameter by 30 feet long. Twenty lengths each weighing 1.72 long tons and stowed in a single tier on deck.

II. Six pallets of oak planking - stowed two pallets high. Each pallet weighs 2.2 long tons. Each pallet is 3.0 feet high.

III. Crated piping and machine parts - 8 crates each 8'L X 4'W X 3'H. Each crate is stowed singly and weighs 660 pounds.

IV. Drill pipe - 6 inches in diameter by 30 feet long. 120 lengths, each weighing 0.644 long ton. The center of gravity of the pipes is 1.11 feet above the main deck.

A. 2.15 feet
B. 1.83 feet
C. 1.64 feet
D. 1.19 feet

ANS. D

199 You are on a supply run to an offshore drilling rig. On board is the cargo listed. What is the height above the main deck of the center of gravity of the cargo?

I. Drill casing - 50 lengths stowed in a block 8 feet high. Each pipe weighs 326 lbs.

II. Crated valves - 10 crates stowed 2 high. Each crate is 36" L X 30" W X 15" H and weighs 1020 lbs.

III. Dry stores - 14 containers stowed 2 high. Each container weighs 2 long tons and measures 6'L X 6'W X 6'H.

IV. Anchors - 4. Each one on deck. The center of gravity of each anchor is 9" from the deck and each weighs 6120 lbs.

A. 3.6 feet
B. 4.2 feet
C. 4.4 feet
D. 4.9 feet

ANS. B

372 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

| | |
|---|---|
| Deck cargo | 200 Tons |
| Upper tween deck layer | 2800 Tons |
| Lower tween deck layer | 1000 Tons |
| Hold layer | 4300 Tons |

A. 189 tons
B. 174 tons
C. 158 tons
D. No loading required

ANS. C

419 The SS AMERICAN MARINER will sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the drafts.

| **Item** | **Tons** | **LCG-FP** |
|---|---|---|
| F.O. & SALT WATER | 1805 | 269.0 |
| FRESH WATER | 230 | 303.6 |
| DRY CARGO | 7190 | 267.5 |
| REEFER CARGO | 195 | 354.0 |
| DECK CARGO | 155 | 60.2 |

A. FWD 23'-03", AFT 27'-00"
B. FWD 23'-07", AFT 26'-07"
C. FWD 24'-01", AFT 26'-02"
D. FWD 24'-06", AFT 25'-10"

ANS. A

431 The SS AMERICAN MARINER arrived in port with drafts of: FWD 28'-04", AFT 31'-10". Cargo was loaded and discharged as shown. Use sheet 2 in the white pages of The Stability Data Reference Book to determine the final drafts.

Load 200 tons-- -180 feet fwd of amidships
Discharge 60 tons--- 25 feet fwd of amidships
Discharge 80 tons---165 feet aft of amidships
Discharge 40 tons---230 feet aft of amidships

A. FWD 29'-01", AFT 31'-04"
B. FWD 29'-05", AFT 31'-00"
C. FWD 29'-08", AFT 30'-09"
D. FWD 29'-11", AFT 30'-07"

ANS. C

483 The SS AMERICAN MARINER is ready to load the cargo listed. There is already 4184 tons of cargo on board with a KG of 27.8 feet. Use the white pages of the Stability Data Reference Book to determine the final KG of all the cargo after loading is completed.

| | |
|---|---|
| No. 1 Second Deck | 140 |
| No. 2 Second Deck | 80 |
| No. 2 Third Deck | 180 |
| No. 2 Tank Top | 360 |
| No. 3 Tank Top | 380 |
| No. 4 Second Deck | 240 |
| No. 4 Third Deck | 280 |
| No. 4 Tank Top | 470 |
| No. 5 Upper Level Flat | 80 |
| No. 5 Third Deck | 260 |
| No. 5 Tank Top | 410 |
| No. 6 Second Deck | 360 |

A. KG 25.8 feet
B. KG 26.6 feet
C. KG 27.2 feet
D. KG 28.0 feet

ANS. A

486 The SS AMERICAN MARINER arrived in port with drafts of: FWD28'-04", AFT 30'-11". Cargo was loaded and discharged as indicated. Use sheet 2 in the white pages of the Stability Data Reference Book to determine the final drafts.

Load 200 tons--- 180 feet fwd of amidships
Discharge 60 tons- 25 feet fwd of amidships
Load 80 tons-- 165 feet aft of amidships
Load 40 tons-- 200 feet aft of amidships

A. FWD 29'-01", AFT 30'-10"
B. FWD 29'-03", AFT 30'-08"
C. FWD 29'-07", AFT 30'-08"
D. FWD 29'-08", AFT 30'-06"

ANS. A

501 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

| | |
|---|---|
| Deck cargo | 200 Tons |
| Upper tween deck layer | 2800 Tons |
| Lower tween deck layer | 3000 Tons |
| Hold layer | 2300 Tons |

A. 1292 tons
B. 1248 tons
C. 1211 tons
D. 1172 tons

ANS. B

511 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

| | |
|---|---|
| Deck cargo | 170 Tons |
| Upper tween deck layer | 2800 Tons |
| Lower tween deck layer | 2000 Tons |
| Hold layer | 3200 Tons |

A. 696 tons
B. 520 tons
C. 473 tons
D. 444 tons

ANS. A

512 The SS AMERICAN MARINER arrived in port with drafts of: FWD 28'-08", AFT 29'-05". Cargo was loaded and discharged as shown. Use sheet 2 in the white pages of The Stability Data Reference Book to determine the final drafts.

| | | |
|---|---|---|
| Load | 225 tons-- | 110 ft fwd of amidships |
| Discharge | 120 tons | 37 ft fwd of amidships |
| Load | 125 tons-- | 30 ft aft of amidships |
| Load | 75 tons-- | 200 ft aft of amidships |

A. FWD 28'-10", AFT 29'-04"
B. FWD 29'-02", AFT 29'-07"
C. FWD 29'-04", AFT 29'-04"
D. FWD 29'-05", AFT 29'-08"

ANS. B

584 The SS AMERICAN MARINER arrived in port with drafts of: FWD28'-08", AFT 29'-05". Cargo was loaded and discharged as indicated. Use sheet 2 in the white pages of the Stability Data Reference Book to determine the final drafts.

| | | |
|---|---|---|
| Discharge | 120 tons | 145 feet fwd of amidships |
| Load | 160 tons--- | 87 feet fwd of amidships |
| Discharge | 85 tons--- | 50 feet fwd of amidships |
| Discharge | 100 tons--- | 30 feet aft of amidships |

A. FWD 28'-09", AFT 29'-00"
B. FWD 28'-07", AFT 29'-01"
C. FWD 28'-05", AFT 29'-08"
D. FWD 28'-04", AFT 29'-05"

ANS. D

591 The SS AMERICAN MARINER has the following drafts: FWD 09'-00", AFT 15'-11". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability data Reference Book to determine the minimum GM required to meet a one compartment standard.

| | |
|---|---|
| Stores | 50 Tons |
| Lube oil | 13 Tons |
| Cargo | 2105 Tons |
| Fuel oil | 1035 Tons |
| Fresh water | 150 Tons |
| Ballast | 100 Tons |

A. 2.82 feet
B. 2.97 feet
C. 3.15 feet
D. 3.24 feet

ANS. D

641 You are on a supply run to an offshore drilling rig. On board is the cargo listed. What is the height above the main deck of the center of gravity of the cargo?

I. Two reels of hoisting wire. Each reel is 8 feet in circumference and 4 feet wide and has 3000 feet of wire. Both reels are stowed on the flat. Wire weighs 1.55 pounds per linear foot. The tare weight of each reel is 500 pounds.

II. Eight pallets of case goods stowed singly. Each pallet is 8'L X 4'W X 4'H and weighs 1 long ton.

III. 12 steel containers of cement. Each container weighs 1 1/2 tons. Each container is 8'L X 4'W X 4'H. The containers are stowed singly fore and aft.

IV. 10 crates of stewards stores. Each crate measures 4'L X 4'W 3'H and weighs 420 pounds. Each crate is stowed on deck.

A. 1.76 feet
B. 1.97 feet
C. 2.21 feet
D. 2.32 feet

ANS. B

722 The SS AMERICAN MARINER will sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the drafts.

| ITEM | TONS | LCG-FP |
|---|---|---|
| F.O. & SALT WATER | 2824 | 262.8 |
| FRESH WATER | 140 | 308.0 |
| DRY CARGO | 6290 | 268.5 |
| REEFER CARGO | 170 | 354.0 |
| DECK CARGO | 151 | 58.4 |

A. FWD 23'-03", AFT 27'-00"
B. FWD 23'-07", AFT 26'-07"
C. FWD 24'-01", AFT 26'-02"
D. FWD 24'-06", AFT 25'-10"

ANS. B

861 The SS AMERICAN MARINER will sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the drafts.

| Item | Tons | LCG-FP |
|---|---|---|
| F.O. & SALT WATER | 3215 | 263.2 |
| FRESH WATER | 185 | 312.0 |
| DRY CARGO | 7780 | 261.5 |
| REEFER CARGO | 70 | 350.8 |
| DECK CARGO | 155 | 353.0 |

A. FWD 26'-09", AFT 28'-00"
B. FWD 27'-00", AFT 27'-10"
C. FWD 27'-03", AFT 27'-07"
D. FWD 27'-06", AFT 27'-04"

ANS. A

911 You are on a supply run to an offshore drilling rig. On board is the cargo listed. What is the height above the main deck of the center of gravity of the cargo?

I. Twenty drums of lube oil stowed on end. Each drum weighs 436 pounds. Diameter of drums is 24 inches and their height is 30 inches overall.

II. General supplies - 26 boxes stowed 2 high. Each box weighs 360 pounds and measures 6'L X 3'W X 2'H.

III. One electric generator weighing 2684 lbs. Stowed so the center of gravity is 3.2 feet above the main deck.

IV. Casing pipe - 29 each. Each pipe weighs 1.7 long tons. The pipe is stacked 3 high across the main deck. The center of gravity of the 10 casings in the 3rd tier is 3.75 feet; the 9 casings in the second tier is 2.3 feet; the 10 casings in the lower tier is 0.833 foot.

A. 3.75 feet
B. 3.02 feet
C. 2.22 feet
D. 0.83 foot

ANS. C

941 You are on a supply run to an offshore drilling rig. On board is the cargo listed. What is the height above the main deck of the center of gravity of the cargo?

I. 2 Danforth mooring anchors. Each anchor weighs 15,750 pounds. The center of gravity is 15 inches above the main deck.

II. 90 fathoms of 3-inch diameter wire rope. The weight per linear foot is 18.7 pounds. The center of gravity of the wire is 22 inches above the main deck.

III. 10 cases of machine parts. Each case measures 6'L X 6'W X 4'H. The total weight of all of the cases is 6000 lbs. Each case is stowed on deck.

IV. 8 crates of galley stores. Each crate measures 4'L X 3'W X 2.5'H and weighs 380 pounds. Each crate is stowed on deck.

A. 0.96 foot
B. 1.45 feet
C. 1.96 feet
D. 2.96 feet

ANS. B

959 You are on a supply run to an offshore drilling rig. On board is the cargo listed. What is the height above the main deck of the center of gravity of the cargo?

I. Two reels of hoisting wire. Each reel is 8 feet in circumference and 4 feet wide. Both reels are stowed on the flat and each has 3000 feet of wire. Wire weighs 1.55 pounds per linear foot. Tare weight of each reel is 500 pounds.

II. Eight pallets of case goods stowed singly. Each pallet is 8'L X 4'W X 4'H and weighs 1 long ton.

III. 12 steel containers of cement. Each container weighs 1 1/2 long tons. Each container is 8'L X 4'W 4'H. The containers are stowed singly fore and aft.

IV. 10 crates of stewards stores. Each crate measures 4'L X 4'W X 3'H and weighs 420 pounds. Each crate is stowed on deck.

A. 2.32 feet
B. 2.21 feet
C. 1.97 feet
D. 1.76 feet

ANS. C

1009 The SS AMERICAN MARINER has the following drafts: FWD 09'-00", AFT 15'-11.5". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

| | |
|---|---|
| Stores | 50 Tons |
| Lube oil | 13 Tons |
| Cargo | 8400 Tons |
| Fuel oil | 3015 Tons |
| Fresh water | 200 Tons |
| Ballast | 450 Tons |

A. 1.80 feet
B. 1.89 feet
C. 1.98 feet
D. 2.05 feet

ANS. C

1041 The SS AMERICAN MARINER is ready to load the cargo listed. There is already 2685 tons of cargo on board with a KG of 27.4 feet. Use the white pages of the Stability Data Reference Book to determine the final KG of all the cargo after loading is completed.

| | |
|---|---|
| No. 1 Main Deck | 60 |
| No. 2 Second Deck | 90 |
| No. 2 Tank Top | 120 |
| No. 3 Second Deck | 90 |
| No. 3 Third Deck | 250 |
| No. 3 Tank Top | 400 |
| No. 4 Second Deck | 110 |
| No. 5 Second deck | 50 |
| No. 5 Tank Top | 480 |
| No. 5 Upper Reefer | 90 |
| No. 6 Second Deck | 120 |
| No. 7 Third Deck | 250 |

A. KG 25.4 feet
B. KG 26.0 feet
C. KG 26.6 feet
D. KG 27.2 feet

ANS. B

1049 The SS AMERICAN MARINER has the following drafts: FWD 09'-00", AFT 15'-11". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

| | |
|---|---|
| Stores | 50 Tons |
| Lube oil | 13 Tons |
| Cargo | 1853 Tons |
| Fuel oil | 1324 Tons |
| Fresh water | 130 Tons |
| Ballast | 370 Tons |

A. 2.62 feet
B. 2.82 feet
C. 2.97 feet
D. 3.15 feet

ANS. D

1060 The SS AMERICAN MARINER will sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the drafts.

| ITEM | TONS | LCG-FP |
|---|---|---|
| F.O. & SALT WATER | 3215 | 263.2 |
| FRESH WATER | 185 | 312.0 |
| DRY CARGO | 7880 | 263.5 |
| REEFER CARGO | 170 | 350.8 |
| DECK CARGO | 155 | 223.0 |

A. FWD 26'-06", AFT 28'-10"
B. FWD 26'-10", AFT 28'-05"
C. FWD 27'-00", AFT 28'-03"
D. FWD 27'-03", AFT 28'-00"

ANS. C

1090 The SS AMERICAN MARINER has the following drafts: FWD 09'-00", AFT 15'-11.5". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

| | |
|---|---|
| Stores | 50 Tons |
| Lube oil | 13 Tons |
| Cargo | 8040 Tons |
| Fuel oil | 3115 Tons |
| Fresh water | 200 Tons |

A. 1.80 feet
B. 1.89 feet
C. 1.98 feet
D. 2.05 feet
ANS. D

1091 The SS AMERICAN MARINER has the following drafts: FWD 09'-00", AFT 15'-11.5". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

| | |
|---|---|
| Stores | 50 Tons |
| Lube oil | 13 Tons |
| Cargo | 3390 Tons |
| Fuel oil | 2580 Tons |
| Fresh water | 175 Tons |
| Ballast | 345 Tons |

A. 2.49 feet
B. 2.38 feet
C. 2.27 feet
D. 2.05 feet

ANS. B

1141 You are on a supply run to an offshore drilling rig. On board is the cargo listed. What is the height above the main deck of the center of gravity of the cargo?

I. Motor generator - one unit weighing 4850 pounds. The center of gravity is 32 inches above the main deck.

II. 50 drums of cement - each drum weighs 400 pounds and is stowed on end. Each drum is 28 inches in diameter and 32 inches high.

III. Ten pallets of cased lube oil - each pallet measures 8'L X 4'W X 4'H. Each pallet is stowed on deck and weighs 2.7 long tons.

IV. Drill collars - 10 lengths each 8" in diameter by 30 feet long. Stowed in a single layer on deck. Each length weighs 1.15 long tons.

A. 2.15 feet
B. 2.05 feet
C. 1.85 feet
D. 1.52 feet

ANS. D

1159 The SS AMERICAN MARINER is ready to load the cargo listed. There is already 3315 tons of cargo on board with a KG of 27.0 feet. Use the white pages of the Stability Data Reference Book to determine the final KG of all the cargo after loading is completed.

| | |
|---|---|
| No. 1 Main Deck | 100 |
| No. 1 Third Deck | 60 |
| No. 2 Second Deck | 90 |
| No. 3 Second Deck | 120 |
| No. 3 Third Deck | 30 |
| No. 3 Tank Top | 230 |
| No. 4 Second Deck | 120 |
| No. 5 Upper Level Flat | 110 |
| No. 5 Third Deck | 140 |
| No. 5 Upper Reefer | 90 |
| No. 5 Third Deck Reefer | 110 |
| No. 7 Second Deck | 240 |

A. KG 26.2 feet
B. KG 27.4 feet
C. KG 28.6 feet
D. KG 30.1 feet

ANS. C

1171 The SS AMERICAN MARINER has the following drafts: FWD 09'-00", AFT 15'-11". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

| | |
|---|---|
| Stores | 50 Tons |
| Lube oil | 13 Tons |
| Cargo | 2345 Tons |
| Fuel oil | 1324 Tons |
| Fresh water | 170 Tons |
| Ballast | 400 Tons |

A. 2.62 feet
B. 2.82 feet
C. 2.97 feet
D. 3.15 feet

ANS. C

1177 You are on a supply run to an offshore drilling rig. On board is the cargo listed. What is the height above the main deck of the center of gravity of the cargo?

I. Intermediate drill casing - 10 lengths each 16 inches in diameter. Each length weighs 1.7 long tons. The center of gravity above the main deck of the casing stow is 1.8 feet.

II. Crated machine parts and assorted pipe fittings - 6 crates stowed two high. Each crate is 4'L X 3.5'W X 3'H. Each crate weighs 840 lbs.

III. 10 each - 55 gallon drums of lube oil stowed on end. Each drum weighs 462 pounds, is 26 inches in diameter and 32 inches high.

IV. Dry stores - 12 containers stowed two high. Each container weighs 0.9 long ton and measures 6'L X 4'W X 3'H.

A. 1.20 feet
B. 1.64 feet
C. 2.26 feet
D. 3.00 feet

ANS. C

1181 The SS AMERICAN MARINER is ready to load the cargo listed. There is already 4145 tons of cargo on board with a KG of 25.5 feet. Use the white pages of the Stability Data Reference Book to determine the final KG of all the cargo after loading is completed.

| | |
|---|---|
| No. 1 Second Deck | 80 |
| No. 2 Second Deck | 100 |
| No. 2 Third Deck | 70 |
| No. 2 Tank Top | 340 |
| No. 3 Third Deck | 120 |
| No. 3 Tank Top | 260 |
| No. 4 Second Deck | 70 |
| No. 4 Tank Top | 220 |
| No. 5 Second Deck | 120 |
| No. 5 Tank Top | 380 |
| No. 6 Third Deck | 260 |
| No. 7 Second Deck | 340 |

A. KG 25.0 feet
B. KG 25.6 feet
C. KG 26.2 feet
D. KG 26.8 feet

ANS. B

1189 The SS AMERICAN MARINER has the following drafts: FWD 09'-00", AFT 15'-11". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

| | |
|---|---|
| Stores | 50 Tons |
| Lube oil | 13 Tons |
| Cargo | 2860 Tons |
| Fuel oil | 1324 Tons |
| Fresh water | 170 Tons |
| Ballast | 400 Tons |

A. 2.62 feet
B. 2.82 feet
C. 2.97 feet
D. 3.15 feet
ANS. B

1291 The SS AMERICAN MARINER has the following drafts: FWD 09'-00", AFT 15'-11.5". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of THe Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

| | |
|---|---|
| Stores | 50 Tons |
| Lube oil | 13 Tons |
| Cargo | 5390 Tons |
| Fuel oil | 2890 Tons |
| Fresh water | 275 Tons |
| Ballast | 945 Tons |

A. 1.82 feet
B. 1.96 feet
C. 2.05 feet
D. 2.17 feet
ANS. A

1293 The SS AMERICAN MARINER has the following drafts: FWD 09'-00", AFT 15'-11". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

| | |
|---|---|
| Stores | 50 Tons |
| Lube oil | 13 Tons |
| Cargo | 3035 Tons |
| Fuel oil | 1775 Tons |
| Fresh water | 270 Tons |
| Ballast | 440 Tons |

A. 2.62 feet
B. 2.82 feet
C. 2.97 feet
D. 3.15 feet
ANS. A

1313 The SS AMERICAN MARINER is ready to load the cargo listed. There is already 3224 tons of cargo on board with a KG of 29.8 feet. Use the white pages of the Stability Data Reference Book to determine the final KG of all the cargo after loading is completed.

| | |
|---|---|
| No. 1 Main Deck | 80 |
| No. 2 Third Deck | 220 |
| No. 2 Tank Top | 315 |
| No. 3 Second Deck | 305 |
| No. 3 Third Deck | 220 |
| No. 3 Tank Top | 480 |
| No. 4 Second Deck | 150 |
| No. 4 Third Deck | 260 |
| No. 5 Upper Lvl Flat | 120 |
| No. 5 Tank Top | 360 |
| No. 6 Second Deck | 320 |
| No. 7 Second Deck | 440 |

A. KG 27.2 feet
B. KG 27.8 feet
C. KG 28.4 feet
D. KG 29.0 feet

ANS. D

1350 You are on a supply run to an offshore drilling rig. On board is the cargo listed. What is the height above the main deck of the center of gravity of the cargo?

I. 50 drums of cement - each drum weighs 400 pounds and is stowed on end. Each drum is 28 inches in diameter and 32 inches high.

II. Crated piping and valves - 8 crates stowed 2 high. Each crate measures 8'L X 4'W X 2.5'H and weighs 640 pounds.

III. Stewards stores - 12 containers measuring 6'H X 6'W X 6'L. Each container weighs 960 pounds. The center of gravity of each container is 30 inches above the main deck.

IV. 20 lengths of drill casing - 16 inches in diameter by 30 feet long. Each length weighs 1.72 long tons and is stowed in a single tier on deck.

A. 2.45 feet
B. 1.95 feet
C. 1.05 feet
D. 0.90 foot

ANS. C

1409 The SS AMERICAN MARINER has the following drafts: FWD 08'-04", AFT 13'-08". Upon completion of loading and bunkering the items listed as LOAD 109 will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

| | |
|---|---|
| Stores | 50 Tons |
| Lube oil | 13 Tons |
| Cargo | 3450 Tons |
| Fuel oil | 1970 Tons |
| Fresh water | 220 Tons |
| Ballast | 440 Tons |

A. 1.91 feet
B. 2.09 feet
C. 2.21 feet
D. 2.48 feet

ANS. D

1430 The SS AMERICAN MARINER is ready to load the cargo listed. There is already 6422 tons of cargo on board with a KG of 26.6 feet. Use the white pages of the Stability Data Reference Book to determine the final KG of all the cargo after loading is completed.

| | |
|---|---|
| No. 1 Third Deck | 80 |
| No. 2 Second Deck | 140 |
| No. 2 Tank Top | 360 |
| No. 3 Second Deck | 40 |
| No. 3 Third Deck | 220 |
| No. 3 Tank Top | 490 |
| No. 4 Second Deck | 80 |
| No. 5 Upper Lvl Flat | 110 |
| No. 5 Third Deck | 140 |
| No. 5 Tank Top | 550 |
| No. 5 Upper Reefer | 85 |
| No. 6 Third Deck | 260 |

A. KG 24.9 feet
B. KG 25.5 feet
C. KG 26.1 feet
D. KG 28.9 feet

ANS. A

1480 You are on a supply run to an offshore drilling rig. On board is the cargo listed. What is the height above the main deck of the center of gravity of the cargo?

I. 116 lengths of drill pipe. Each pipe weighs 0.644 long ton. The center of gravity is 1.11 feet above the main deck.

II. 10 containers 8'L X 4'W X 3'H containing assorted pipe fittings and machine parts. Each container weighs 1-1/4 long tons, and the center of gravity of each box is 1.35 feet above the main deck.

III. Two 90-fathom lengths of 3-inch diameter wire rope coiled on the main deck. Each foot of wire rope weighs 18.7 pounds. The center of gravity of the coil is 27 inches above the main deck.

IV. 6 pallets of oak planking. Each pallet weighs 2-1/2 long tons with a center of gravity of 2.2 feet above the main deck.

A. 2.23 feet
B. 1.93 feet
C. 1.82 feet
D. 1.38 feet

ANS. D

1500 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of THe Stability Data Reference Book to determine the available GM.

| ITEM | TONS | KG |
|---|---|---|
| CREW and STORES | 50 | 43.7 |
| LUBE OIL | 13 | 25.8 |
| F.O. & SALT WATER | 2824 | 7.5 |
| FRESH WATER | 160 | 21.0 |
| DRY CARGO | 7190 | 27.0 |
| REEFER CARGO | 170 | 29.2 |
| DECK CARGO | 155 | 55.0 |
| TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD | 15138 | |

A. Available GM 6.9 ft
B. Available GM 5.3 ft
C. Available GM 4.1 ft
D. Available GM 3.8 ft

ANS. C

1542 The SS AMERICAN MARINER has the following drafts: FWD 08'-04", AFT 13'-08". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of THe Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

| | |
|---|---|
| Stores | 50 Tons |
| Lube oil | 13 Tons |
| Cargo | 4780 Tons |
| Fuel oil | 1970 Tons |
| Fresh water | 110 Tons |
| Ballast | 390 Tons |

A. 1.91 feet
B. 2.09 feet
C. 2.21 feet
D. 2.48 feet

ANS. C

1568 The SS AMERICAN MARINER is ready to load the cargo listed. There is already 2464 tons of cargo on board with a KG of 27.3 feet. Use the white pages of the Stability Data Reference Book to determine the final KG of all the cargo after loading is completed.

| | |
|---|---|
| No. 1 Second Deck | 80 |
| No. 2 Second Deck | 140 |
| No. 2 Third Deck | 240 |
| No. 2 Tank Top | 460 |
| No. 4 Second Deck | 180 |
| No. 4 Third Deck | 160 |
| No. 4 Tank Top | 70 |
| No. 5 Second Deck | 320 |
| No. 5 Thrd Dk (Reef) | 180 |
| No. 6 Second Deck | 220 |
| No. 6 Third Deck | 360 |
| No. 7 Second Deck | 90 |
| No. 7 Third Deck | 50 |

A. KG 27.0 feet
B. KG 27.8 feet
C. KG 28.6 feet
D. KG 29.8 feet

ANS. C

1589 The SS AMERICAN MARINER is ready to load the cargo listed. There is already 3284 tons of cargo on board with a KG of 26.4 feet. Use the white pages of the Stability Data Reference Book to determine the final KG of all the cargo after loading is completed.

| | |
|---|---|
| No. 1 Second Deck | 140 |
| No. 2 Second Deck | 80 |
| No. 2 Third Deck | 260 |
| No. 3 Second Deck | 180 |
| No. 3 Third Deck | 320 |
| No. 3 Tank Top | 480 |
| No. 4 Second Deck | 90 |
| No. 4 Tank Top | 90 |
| No. 5 Second Deck | 260 |
| No. 5 Third Deck | 380 |
| No. 5 Tank Top | 580 |
| No. 6 Third Deck | 360 |

A. KG 25.0 feet
B. KG 25.5 feet
C. KG 26.1 feet
D. KG 26.7 feet

ANS. B

1606 The SS AMERICAN MARINER has the following drafts: FWD 08'-04", AFT 13'-08". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

| | |
|---|---|
| Stores | 50 Tons |
| Lube oil | 13 Tons |
| Cargo | 5455 Tons |
| Fuel oil | 1970 Tons |
| Fresh water | 100 Tons |
| Ballast | 390 Tons |

A. 1.91 feet
B. 2.09 feet
C. 2.21 feet
D. 2.48 feet

ANS. B

1666 The SS AMERICAN MARINER has the following drafts: FWD 08'-04", AFT 13'-08". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

| | |
|---|---|
| Stores | 50 Tons |
| Lube oil | 13 Tons |
| Cargo | 5880 Tons |
| Fuel oil | 2210 Tons |
| Fresh water | 200 Tons |
| Ballast | 600 Tons |

A. 1.91 feet
B. 2.09 feet
C. 2.21 feet
D. 2.48 feet
ANS. A

1866 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

| **ITEM** | **TONS** | **KG** |
|---|---|---|
| CREW and STORES | 50 | 43.7 |
| LUBE OIL | 13 | 25.8 |
| F.O. & SALT WATER | 3710 | 7.5 |
| FRESH WATER | 115 | 21.0 |
| DRY CARGO | 7815 | 27.0 |
| REEFER CARGO | 175 | 29.2 |
| DECK CARGO | 120 | 55.0 |

TOTAL FREE SURFACE MOMENTS 9640
FOR ALL LIQUIDS ON BOARD

A. Available GM 5.0 ft
B. Available GM 5.4 ft
C. Available GM 6.1 ft
D. Available GM 6.8 ft
ANS. B

1913 The SS AMERICAN MARINER has the following drafts: FWD 08'-04", AFT 15'-08". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

| | |
|---|---|
| Stores | 50 Tons |
| Lube oil | 13 Tons |
| Cargo | 7325 Tons |
| Fuel oil | 2210 Tons |
| Fresh water | 200 Tons |
| Ballast | 100 Tons |

A. 1.77 feet
B. 1.91 feet
C. 2.09 feet
D. 2.21 feet
ANS. A

2047 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

| | |
|---|---|
| Deck cargo | 350 Tons |
| Upper tween deck layer | 1700 Tons |
| Lower tween deck layer | 2900 Tons |
| Hold layer | 3400 Tons |

A. 280 tons
B. 395 tons
C. 750 tons
D. 990 tons
ANS. A

2098 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

| | |
|---|---|
| Deck cargo | 350 Tons |
| Upper tween deck layer | 1780 Tons |
| Lower tween deck layer | 1990 Tons |
| Hold layer | 3230 Tons |

A. 395 tons
B. 530 tons
C. 750 tons
D. 990 tons
ANS. A

2113 The SS AMERICAN MARINER is ready to load the cargo listed. There is already 2865 tons of cargo on board with a KG of 27.8 feet. Use the white pages of the Stability Data Reference Book to determine the final KG of all the cargo after loading is completed.

| | |
|---|---|
| No. 1 Third Deck | 220 |
| No. 2 Second Deck | 140 |
| No. 2 Third Deck | 80 |
| No. 3 Second Deck | 240 |
| No. 3 Third Deck | 220 |
| No. 3 Tank Top | 280 |
| No. 4 Second Deck | 260 |
| No. 4 Third Deck | 180 |
| No. 4 Tank Top | 210 |
| No. 5 Third Deck | 340 |
| No. 6 Second Deck | 260 |
| No. 7 Third Deck | 240 |

A. KG 26.2 feet
B. KG 27.4 feet
C. KG 28.5 feet
D. KG 29.5 feet
ANS. C

2135 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

| | |
|---|---|
| Deck cargo | 190 Tons |
| Upper tween deck layer | 1740 Tons |
| Lower tween deck layer | 1420 Tons |
| Hold layer | 2840 Tons |

A. 395 tons
B. 530 tons
C. 750 tons
D. 990 tons

ANS. B

2151 The SS AMERICAN MARINER is ready to sail with Lthe load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

| **ITEM** | **TONS** | **KG** |
|---|---|---|
| CREW and STORES | 50 | 43.7 |
| LUBE OIL | 13 | 25.8 |
| F.O. & SALT WATER | 2824 | 7.5 |
| FRESH WATER | 160 | 21.0 |
| DRY CARGO | 7190 | 27.0 |
| REEFER CARGO | 170 | 29.2 |
| DECK CARGO | 155 | 55.0 |
| TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD | 20972 | |

A. Available GM 6.9 ft
B. Available GM 5.3 ft
C. Available GM 4.1 ft
D. Available GM 3.8 ft

ANS. D

2220 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

| | |
|---|---|
| Deck cargo | 220 Tons |
| Upper tween deck layer | 1950 Tons |
| Lower tween deck layer | 1300 Tons |
| Hold layer | 2750 Tons |

A. 395 tons
B. 530 tons
C. 750 tons
D. 990 tons
ANS. C

2256 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

| ITEM | TONS | KG |
|---|---|---|
| CREW and STORES | 50 | 43.7 |
| LUBE OIL | 13 | 25.8 |
| F.O. & SALT WATER | 1906 | 7.5 |
| FRESH WATER | 140 | 21.0 |
| DRY CARGO | 4286 | 27.0 |
| REEFER CARGO | 125 | 29.2 |
| DECK CARGO | 140 | 55.0 |
| TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD | 11468 | |

A. Available GM 6.8 ft
B. Available GM 5.4 ft
C. Available GM 4.1 ft
D. Available GM 3.6 ft

ANS. D

2298 The SS AMERICAN MARINER is ready to load the cargo listed. There is already 3684 tons of cargo on board with a KG of 28.4 feet. Use the white pages of the Stability Data Reference Book to determine the final KG of all the cargo after loading is completed.

| | |
|---|---|
| No. 2 Second Deck | 140 |
| No. 2 Third Deck | 220 |
| No. 2 Tank Top | 140 |
| No. 3 Second Deck | 180 |
| No. 3 Third Deck | 160 |
| No. 3 Tank top | 160 |
| No. 4 Second Deck | 110 |
| No. 4 Tank Top | 420 |
| No. 5 Upper Level Flt | 90 |
| No. 5 Third Deck | 170 |
| No. 6 Second Deck | 180 |
| No. 6 Third Deck | 310 |

A. KG 27.0 feet
B. KG 27.6 feet
C. KG 28.2 feet
D. KG 28.8 feet

ANS. B

2302 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

| ITEM | TONS | KG |
|---|---|---|
| CREW and STORES | 50 | 43.7 |
| LUBE OIL | 13 | 25.8 |
| F.O. & SALT WATER | 1906 | 7.5 |
| FRESH WATER | 140 | 21.0 |
| DRY CARGO | 4286 | 27.0 |
| REEFER CARGO | 125 | 29.2 |
| DECK CARGO | 140 | 55.0 |
| TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD | 4157 | |

A. Available GM 6.8 ft
B. Available GM 5.4 ft
C. Available GM 4.1 ft
D. Available GM 3.6 ft
ANS. C

2317 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the KG of the liquid load.

| | | | |
|---|---|---|---|
| DB CL | 48.2 | DB 7 P | 94.6 |
| DB 1A CL | 81.9 | DB 7 S | 94.6 |
| DB 4 CL | 224.1 | DT 2 P | 100.7 |
| DB 4 P | 128.1 | DT 2 S | 100.7 |
| DB 4 S | 128.1 | DT 3 P | 86.1 |
| DB 5 CL | 196.2 | DT 3 S | 86.1 |
| DB 5 P | 178.0 | DT 4 P/S | 110.0 |
| DB 5 S | 180.0 | DT 5 P/S | 108.4 |
| DB 6 CL | 242.3 | DIS/WATER | 24.9 |

A. 7.7 feet
B. 9.1 feet
C. 9.9 feet
D. 10.6 feet
ANS. A

2325 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

| | |
|---|---|
| Deck cargo | 250 Tons |
| Upper tween deck layer | 1520 Tons |
| Lower tween deck layer | 1410 Tons |
| Hold layer | 2070 Tons |

A. 395 tons
B. 530 tons
C. 750 tons
D. 990 tons
ANS. D

2329 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

| ITEM | TONS | KG |
|---|---|---|
| CREW and STORES | 50 | 43.7 |
| LUBE OIL | 13 | 25.8 |
| F.O. & SALT WATER | 2608 | 7.5 |
| FRESH WATER | 80 | 21.0 |
| DRY CARGO | 5469 | 27.0 |
| REEFER CARGO | 225 | 29.2 |
| DECK CARGO | 113 | 55.0 |

TOTAL FREE SURFACE MOMENTS 15585
FOR ALL LIQUIDS ON BOARD

A. Available GM 3.2 ft
B. Available GM 3.9 ft
C. Available GM 4.8 ft
D. Available GM 5.3 ft

ANS. B

2341 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

| ITEM | TONS | KG |
|---|---|---|
| CREW and STORES | 50 | 43.7 |
| LUBE OIL | 13 | 25.8 |
| F.O. & SALT WATER | 2824 | 7.5 |
| FRESH WATER | 80 | 21.0 |
| DRY CARGO | 4286 | 27.0 |
| REEFER CARGO | 225 | 29.2 |
| DECK CARGO | 155 | 55.0 |

TOTAL FREE SURFACE MOMENTS 15585
FOR ALL LIQUIDS ON BOARD

A. Available GM 5.26 ft
B. Available GM 4.24 ft
C. Available GM 4.11 ft
D. Available GM 4.01 ft

ANS. B

2368 The SS AMERICAN MARINER will sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the drafts.

| Item | Tons | LCG-FP |
|---|---|---|
| F.O. & SALT WATER | 1805 | 269.0 |
| FRESH WATER | 185 | 312.0 |
| DRY CARGO | 6290 | 268.5 |
| REEFER CARGO | 170 | 354.5 |
| DECK CARGO | 155 | 223.0 |

A. FWD 22'-02", AFT 25'-08"
B. FWD 21'-07", AFT 26'-03"
C. FWD 20'-11", AFT 26'-09"
D. FWD 20'-09", AFT 26'-11"

ANS. C

2415 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

| | |
|---|---|
| Deck cargo | 320 Tons |
| Upper tween deck layer | 1320 Tons |
| Lower tween deck layer | 1010 Tons |
| Hold layer | 1670 Tons |

A. 1171.5 tons
B. 1311.0 tons
C. 1503.0 tons
D. 1710.5 tons

ANS. A

2443 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the KG of the liquid load.

| | | | |
|---|---|---|---|
| DB 1 CL | 48.2 | DB 6 CL | 242.3 |
| DB 1A CL | 81.9 | DB 7 P | 94.6 |
| DB 3 P | 55.6 | DB 7 S | 94.6 |
| DB 3 S | 55.6 | DT 3 P | 86.1 |
| DB 4 CL | 224.1 | DT 3 S | 86.1 |
| DB 4 P | 128.1 | DT 4 P/S | 120.0 |
| DB 4 S | 128.1 | DT 5 P/S | 108.4 |
| DB 5 CL | 196.2 | | |

A. 4.0 feet
B. 5.6 feet
C. 6.0 feet
D. 6.8 feet
ANS. D

2464 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the KG of the liquid load.

| | | | |
|---|---|---|---|
| DB 2 P | 71.2 | DB 5 P | 178.0 |
| DB 2 S | 71.2 | DB 5 S | 180.0 |
| DB 3 CL | 220.0 | DB 6 CL | 242.3 |
| DB 3 P | 55.6 | DB 6 P | 87.0 |
| DB 3 S | 55.6 | DB 6 S | 87.0 |
| DB 4 CL | 224.1 | DB 7 P | 94.6 |
| DB 4 P | 128.1 | DB 7 S | 94.6 |
| DB 4 S | 128.1 | DT 4 P/S | 110.0 |
| DB 5 CL | 196.2 | DT 5 P/S | 108.4 |

A. 3.9 feet
B. 4.3 feet
C. 4.7 feet
D. 5.1 feet
ANS. B

2486 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

| **ITEM** | **TONS** | **KG** |
|---|---|---|
| CREW and STORES | 50 | 43.7 |
| LUBE OIL | 13 | 25.8 |
| F.O. & SALT WATER | 3710 | 7.5 |
| FRESH WATER | 115 | 21.0 |
| DRY CARGO | 7815 | 27.0 |
| REEFER CARGO | 175 | 29.2 |
| DECK CARGO | 120 | 55.0 |
| TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD | 17706 | |

A. Available GM 5.0 ft
B. Available GM 5.4 ft
C. Available GM 6.1 ft
D. Available GM 6.8 ft
ANS. A

2493 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

| | |
|---|---|
| Deck cargo | 280 Tons |
| Upper tween deck layer | 1320 Tons |
| Lower tween deck layer | 1260 Tons |
| Hold layer | 1420 Tons |

A. 1171.5 tons
B. 1311.0 tons
C. 1503.0 tons
D. 1710.5 tons
ANS. B

2518 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the KG of the liquid load.

| | |
|---|---|
| DB 1 CL 48.2 | DB 6 P 87.0 |
| DB 1A CL 81.9 | DB 6 S 87.0 |
| DB 2 P 71.2 | DB 7 P 94.6 |
| DB 2 S 71.2 | DB 7 S 94.6 |
| DB 4 CL 224.1 | DT 3 P 86.1 |
| DB 4 P 128.1 | DT 3 S 86.1 |
| DB 4 S 128.1 | DT 4 P/S 120.0 |
| DB 5 CL 196.2 | |

A. 4.0 feet
B. 5.6 feet
C. 6.0 feet
D. 6.8 feet

ANS. C

2525 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

| ITEM | TONS | KG |
|---|---|---|
| CREW and STORES | 50 | 43.7 |
| LUBE OIL | 13 | 25.8 |
| F.O. & SALT WATER | 2824 | 7.5 |
| FRESH WATER | 80 | 21.0 |
| DRY CARGO | 4286 | 27.0 |
| REEFER CARGO | 225 | 29.2 |
| DECK CARGO | 155 | 55.0 |

TOTAL FREE SURFACE MOMENTS 17604
FOR ALL LIQUIDS ON BOARD

A. Available GM 5.26 ft
B. Available GM 4.24 ft
C. Available GM 4.11 ft
D. Available GM 4.01 ft

ANS. C

2526 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

| ITEM | TONS | KG |
|---|---|---|
| CREW and STORES | 50 | 43.7 |
| LUBE OIL | 13 | 25.8 |
| F.O. & SALT WATER | 2710 | 7.5 |
| FRESH WATER | 115 | 21.0 |
| DRY CARGO | 7815 | 27.0 |
| REEFER CARGO | 175 | 29.2 |
| DECK CARGO | 120 | 55.0 |

TOTAL FREE SURFACE MOMENTS 17706
FOR ALL LIQUIDS ON BOARD

A. Available GM 4.2 ft
B. Available GM 3.9 ft
C. Available GM 3.7 ft
D. Available GM 3.5 ft
ANS. B

2527 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

| | |
|---|---|
| Deck cargo | 210 Tons |
| Upper tween deck layer | 1220 Tons |
| Lower tween deck layer | 910 Tons |
| Hold layer | 870 Tons |

A. 1171.5 tons
B. 1311.0 tons
C. 1503.0 tons
D. 1710.5 tons
ANS. C

2608 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

| ITEM | TONS | KG |
|---|---|---|
| CREW and STORES | 50 | 43.7 |
| LUBE OIL | 13 | 25.8 |
| F.O. & SALT WATER | 3670 | 7.5 |
| FRESH WATER | 140 | 21.0 |
| DRY CARGO | 5965 | 27.0 |
| REEFER CARGO | 265 | 29.2 |
| DECK CARGO | 115 | 55.0 |

TOTAL FREE SURFACE MOMENTS 20219
FOR ALL LIQUIDS ON BOARD

A. Available GM 6.3 ft
B. Available GM 5.7 ft
C. Available GM 5.3 ft
D. Available GM 4.8 ft
ANS. D

2610 The SS AMERICAN MARINER arrived in port with drafts of: FWD 21'-06.5", AFT 23'-05.4". Cargo was loaded and discharged as shown. Use sheet 2 in the white pages of The Stability Data Reference Book to determine the final drafts.

| | | |
|---|---|---|
| Discharge | 170 tons | 150 ft fwd of amidships |
| Load | 220 tons | 100 ft fwd of amidships |
| Load | 160 tons | 75 ft aft of amidships |
| Discharge | 80 tons | 225 ft aft of amidships |

A. FWD 21'-07.1", AFT 23'-08.9"
B. FWD 21'-05.9", AFT 23'-01.9"
C. FWD 21'-03.0", AFT 23'-04.8"
D. FWD 21'-10.0", AFT 23'-06.0"

ANS. D

2619 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

| | |
|---|---|
| Deck cargo | 320 Tons |
| Upper tween deck layer | 820 Tons |
| Lower tween deck layer | 910 Tons |
| Hold layer | 270 Tons |

A. 1171.5 tons
B. 1311.0 tons
C. 1503.0 tons
D. 1710.5 tons

ANS. D

2659 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

| ITEM | TONS | KG |
|---|---|---|
| CREW and STORES | 50 | 43.7 |
| LUBE OIL | 13 | 25.8 |
| F.O. & SALT WATER | 2608 | 7.5 |
| FRESH WATER | 80 | 21.0 |
| DRY CARGO | 5469 | 25.2 |
| REEFER CARGO | 225 | 29.2 |
| DECK CARGO | 113 | 55.0 |

TOTAL FREE SURFACE MOMENTS 18585
FOR ALL LIQUIDS ON BOARD

A. Available GM 4.3 ft
B. Available GM 4.1 ft
C. Available GM 3.9 ft
D. Available GM 3.6 ft
ANS. A

2677 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the KG of the liquid load.

| | |
|---|---|
| DB 1 CL 48.2 | DB 6 CL 242.3 |
| DB 1A CL 81.9 | DB 6 P 87.0 |
| DB 3 P 55.6 | DB 6 S 87.0 |
| DB 3 S 55.6 | DB 7 P 94.6 |
| DB 4 CL 224.1 | DB 7 S 94.6 |
| DB 4 P 128.1 | DT 3 P 86.1 |
| DB 4 S 128.1 | DT 3 S 86.1 |
| DB 5 CL 196.2 | DT 4 P/S120.0 |

A. 4.0 feet
B. 5.6 feet
C. 6.0 feet
D. 6.8 feet

ANS. B

2693 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stabiliry Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

| | |
|---|---|
| Deck cargo | 250 Tons |
| Upper tween deck layer | 1320 Tons |
| Lower tween deck layer | 310 Tons |
| Hold layer | 370 Tons |

A. 1171.5 tons
B. 1311.0 tons
C. 1503.0 tons
D. 1912.5 tons

ANS. D

2705 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the KG of the liquid load.

| | |
|---|---|
| DB 1 CL 48.2 | DB 4 S 128.1 |
| DB 2 P 71.2 | DB 5 CL 196.2 |
| DB 2 S 71.2 | DB 6 CL 242.3 |
| DB 3 P 55.6 | DB 7 P 94.6 |
| DB 3 S 55.6 | DB 7 S 94.6 |
| DB 4 CL224.1 | DT 5 P/S108.4 |
| DB 4 P 128.1 | |

A. 4.0 feet
B. 5.6 feet
C. 6.0 feet
D. 6.8 feet

ANS. A

2707 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

| ITEM | TONS | KG |
|---|---|---|
| CREW and STORES | 50 | 43.7 |
| LUBE OIL | 13 | 25.8 |
| F.O. & SALT WATER | 2024 | 7.5 |
| FRESH WATER | 160 | 21.0 |
| DRY CARGO | 7090 | 27.4 |
| REEFER CARGO | 170 | 29.2 |
| DECK CARGO | 155 | 55.0 |

TOTAL FREE SURFACE MOMENTS 15538
FOR ALL LIQUIDS ON BOARD

A. Available GM 3.8 ft
B. Available GM 3.6 ft
C. Available GM 3.3 ft
D. Available GM 3.1 ft
ANS. D

2740 The SS AMERICAN MARINER arrived in port with drafts of: FWD 19'-06.6", AFT 20'-05.6". Cargo was loaded and discharged as shown. Use sheet 2 in the white pages of The Stability Data Reference book to determine the final drafts.

Load 170 tons--165 ft fwd of amidships
Load 150 tons--120 ft fwd of amidships
Load 160 tons--112 ft aft of amidships
Load 155 tons--202 ft aft of amidships

A. FWD 20'-06.6", AFT 21'-00.4"
B. FWD 18'-06.6", AFT 19'-09.8"
C. FWD 18'-10.8", AFT 20'-05.6"
D. FWD 20'-03.4", AFT 21'-05.6"
ANS. A

2774 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

| ITEM | TONS | KG |
|---|---|---|
| CREW and STORES | 50 | 43.7 |
| LUBE OIL | 13 | 25.8 |
| F.O. & SALT WATER | 1906 | 7.5 |
| FRESH WATER | 140 | 21.0 |
| DRY CARGO | 4826 | 27.3 |
| REEFER CARGO | 125 | 29.2 |
| DECK CARGO | 140 | 55.0 |

TOTAL FREE SURFACE MOMENTS 14168
FOR ALL LIQUIDS ON BOARD

A. Available GM 3.8 ft
B. Available GM 3.5 ft
C. Available GM 3.2 ft
D. Available GM 2.9 ft
ANS. C

2775 The SS AMERICAN MARINER arrived in port with drafts of: FWD 28'-08", AFT 29'-05". Cargo was loaded and discharged as indicated. Use sheet 2 in the white pages of the Stability Data Reference Book to determine the final drafts.

Load 120 tons---145 feet fwd of amidships
Discharge 160 tons--- 38 feet fwd of amidships
Load 85 tons--- 35 feet aft of amidships
Discharge 170 tons---205 feet aft of amidships

A. FWD 28'-11", AFT 28'-11"
B. FWD 29'-01", AFT 28'-09"
C. FWD 29'-03", AFT 28'-07"
D. FWD 29'-05", AFT 28'-05"

ANS. D

2820 The SS AMERICAN MARINER will sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the drafts.

| Item | Tons | LCG-FP |
|---|---|---|
| F.O. & SALT WATER | 3865 | 280.0 |
| FRESH WATER | 140 | 308.0 |
| DRY CARGO | 6200 | 254.0 |
| REEFER CARGO | 265 | 351.0 |
| DECK CARGO | 151 | 58.4 |

A. FWD 26'-02", AFT 26'-08"
B. FWD 25'-09", AFT 27'-02"
C. FWD 25'-03", AFT 28'-09"
D. FWD 24'-11", AFT 29'-11"

ANS. B

2837 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the KG of the liquid load.

| | | | |
|---|---|---|---|
| DB 1 CL | 48.2 | DB 7 S | 94.6 |
| DB 2 P | 71.2 | DT 2 P | 100.0 |
| DB 2 S | 71.2 | DT 2 S | 100.0 |
| DB 3 P | 55.6 | DT 3 P | 86.0 |
| DB 3 S | 55.6 | DT 3 S | 86.0 |
| DB 4 CL | 224.1 | DT 4 P/S | 120.0 |
| DB 5 CL | 196.2 | DT 5 P/S | 108.4 |
| DB 6 CL | 242.3 | DT 6 P | 201.0 |
| DB 7 P | 94.6 | DT 6 S | 201.0 |

A. 7.7 feet
B. 9.1 feet
C. 9.9 feet
D. 10.6 feet

ANS. B

2845 The SS AMERICAN MARINER will sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the drafts.

| Item | Tons | LCG-FP |
|---|---|---|
| F.O. & SALT WATER | 2120 | 298.0 |
| FRESH WATER | 250 | 297.0 |
| DRY CARGO | 9111 | 264.7 |
| REEFER CARGO | 210 | 350.0 |
| DECK CARGO | 95 | 60.0 |

A. FWD 27'-01", AFT 25'-08"
B. FWD 29'-09", AFT 25'-09"
C. FWD 25'-09", AFT 30'-05"
D. FWD 25'-06", AFT 30'-00"

ANS. D

2868 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 14'-06", AFT 17'-00". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stabiity Data Reference Book to determine the free surface correction.

| | | | |
|---|---|---|---|
| DB 1 CL | 48.2 | DB 7 P | 94.6 |
| DB 1A CL | 81.9 | DB 7 S | 94.6 |
| DB 2 P | 71.2 | DT 1A CL | 150.0 |
| DB 2 S | 71.2 | DT 2 P | 50.0 |
| DB 3 CL | 227.6 | DT 2 S | 50.0 |
| DB 3 P | 55.6 | DT 6 P | 201.2 |
| DB 3 S | 55.6 | DT 6 S | 201.2 |
| DB 4 CL | 224.1 | | |
| DB 4 P | 128.1 | | |
| DB 4 S | 128.1 | | |
| DB 5 CL | 180.0 | | |
| DB 6 CL | 242.3 | | |

A. 0.52 foot
B. 0.70 foot
C. 0.84 foot
D. 1.10 feet

ANS. C

2912 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 12'-06", AFT 15'-06". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

| | | | |
|---|---|---|---|
| DB 1 CL | 48.2 | DB 6 CL | 242.3 |
| DB 1A CL | 81.9 | DB 7 P | 94.6 |
| DB 2 P | 71.2 | DB 7 S | 94.6 |
| DB 2 S | 71.2 | DT 1 CL | 125.3 |
| DB 3 CL | 227.6 | DT 1A CL | 257.6 |
| DB 3 P | 55.6 | DT 2 P | 80.0 |
| DB 3 S | 55.6 | DT 2 S | 80.0 |
| DB 4 CL | 224.1 | DT 6 P | 201.2 |
| DB 4 P | 128.1 | DT 6 S | 201.2 |
| DB 4 S | 128.1 | DT 7 P | 128.8 |

DT 7 S 128.8

A. 0.68 foot
B. 0.85 foot
C. 0.97 foot
D. 1.30 feet

ANS. A

2913 The SS AMERICAN MARINER arrived in port with drafts of: FWD 21'-09.5", AFT 22'-09.5". Cargo was loaded and discharged as shown. Use sheet 2 in the white pages of The Stability Data Reference Book to determine the final drafts.

| | |
|---|---|
| Load | 170 tons--120 ft fwd of amidships |
| Discharge | 100 tons- -28 ft fwd of amidships |
| Discharge | 70 tons-- 122 ft aft of amidships |
| Load | 200 tons--163 ft aft of amidships |

A. FWD 21'-06.6", AFT 22'-06.6"
B. FWD 22'-00.4", AFT 23'-00.4"
C. FWD 22'-06.6", AFT 21'-06.6"
D. FWD 23'-00.4", AFT 22'-00.4"

ANS. B

2923 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

| ITEM | TONS | KG |
|---|---|---|
| CREW and STORES | 50 | 43.7 |
| LUBE OIL | 13 | 25.8 |
| F.O. & SALT WATER | 2608 | 8.5 |
| FRESH WATER | 80 | 20.0 |
| DRY CARGO | 5469 | 25.5 |
| REEFER CARGO | 225 | 28.2 |
| DECK CARGO | 113 | 55.0 |

TOTAL FREE SURFACE MOMENTS 17531
FOR ALL LIQUIDS ON BOARD

A. Available GM 4.01 ft
B. Available GM 4.16 ft
C. Available GM 4.69 ft
D. Available GM 4.81 ft

ANS. B

2956 The SS AMERICAN MARINER arrived in port with drafts of: FWD 21'-10.6", AFT 22'-11.6". Cargo was loaded and discharged as shown. Use sheet 2 in the white pages of The Stabiiity Data Reference Book to determine the final drafts.

| | |
|---|---|
| Discharge | 280 tons--200 ft fwd of amidships |
| Load | 150 tons--150 ft fwd of amidships |
| Load | 150 tons--100 ft fwd of amidships |
| Discharge | 90 tons--247 ft aft of amidships |

A. FWD 22'-00.1", AFT 23'-00.1"
B. FWD 21'-11.0", AFT 23'-01.2"
C. FWD 21'-10.0", AFT 22'-10.0"
D. FWD 21'-08.9", AFT 22'-11.1"

ANS. C

2962 The SS AMERICAN MARINER will sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the drafts.

| Item | Tons | LCG-FP |
|---|---|---|
| F.O. & SALT WATER | 960 | 294.0 |
| FRESH WATER | 150 | 299.0 |
| DRY CARGO | 4880 | 265.0 |
| REEFER CARGO | 200 | 354.0 |
| DECK CARGO | 70 | 60.0 |

A. FWD 17'-06", AFT 24'-03"
B. FWD 19'-03", AFT 22'-06"
C. FWD 17'-01", AFT 24'-08"
D. FWD 21'-04", AFT 19'-07"

ANS. A

2982 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 11'-01", AFT 15'-01". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

| | | | |
|---|---|---|---|
| DB 1 CL | 48.2 | DB 7 P | 94.6 |
| DB 1A CL | 81.9 | DB 7 S | 94.6 |
| DB 2 P | 71.2 | DT 1 CL | 125.3 |
| DB 2 S | 71.2 | DT 1A CL | 257.6 |
| DB 3 CL | 227.6 | DT 2 P | 78.5 |
| DB 3 P | 55.6 | DT 2 S | 78.5 |
| DB 3 S | 55.6 | DT 6 P | 201.2 |
| DB 4 CL | 224.1 | DT 6 S | 201.2 |
| DB 4 P | 128.1 | DT 7 P | 128.8 |
| DB 4 S | 128.1 | DT 7 S | 128.8 |
| DB 6 CL | 242.3 | DT 8 P | 50.5 |
| DT 8 S | 50.5 | | |

A. 1.20 feet
B. 0.92 foot
C. 0.73 foot
D. 0.61 foot

ANS. C

2990 The SS AMERICAN MARINER arrived in port with drafts of: FWD 28'-04", AFT 30'-08". Cargo was loaded and discharged as indicated. Use sheet 2 in the white pages of the Stability Data Reference Book to determine the final drafts.

| | |
|---|---|
| Load | 180 tons---155 feet fwd of amidships |
| Discharge | 160 tons--- 38 feet fwd of amidships |
| Load | 140 tons--- 75 feet aft of amidships |
| Discharge | 170 tons---205 feet aft of amidships |

A. FWD 29'-01", AFT 30'-01"
B. FWD 29'-03", AFT 29'-11"
C. FWD 29'-05", AFT 29'-09"
D. FWD 29'-07", AFT 29'-07"

ANS. C

2996 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the LCG-FP of the liquid load.

| | | | |
|---|---|---|---|
| DB 4 CL | 224.1 | DT 2 P | 100.7 |
| DB 4 P | 128.1 | DT 2 S | 100.7 |
| DB 4 S | 128.1 | DT 3 P | 86.1 |
| DB 5 CL | 180.0 | DT 3 S | 86.1 |
| DB 5 P | 178.0 | DT 4 P/S | 105.0 |
| DB 5 S | 180.0 | DT 5 P/S | 108.4 |
| DB 6 CL | 242.3 | DIS/WATER | 20.0 |
| DB 6 P | 87.0 | | |
| DB 6 S | 87.0 | | |

A. 286.1 ft
B. 282.7 ft
C. 278.6 ft
D. 272.4 ft

ANS. B

3006 The SS AMERICAN MARINER will sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the drafts.

| Item | Tons | LCG-FP |
|---|---|---|
| F.O. & SALT WATER | 1300 | 280.5 |
| FRESH WATER | 230 | 298.0 |
| DRY CARGO | 8412 | 260.5 |
| REEFER CARGO | 310 | 355.5 |
| DECK CARGO | 150 | 55.0 |

A. FWD 26'-03", AFT 27'-08"
B. FWD 26'-08", AFT 25'-07"
C. FWD 25'-06", AFT 26'-11"
D. FWD 26'-11", AFT 25'-06"

ANS. C

3008 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the LCG-FP of the liquid load.

| | | | |
|---|---|---|---|
| DB 2 P | 71.2 | DB 6 CL | 242.3 |
| DB 2 S | 71.2 | DB 6 P | 87.0 |
| DB 3 CL | 227.6 | DB 6 S | 87.0 |
| DB 3 P | 55.6 | DB 7 P | 90.0 |
| DB 3 S | 55.6 | DB 7 S | 90.0 |
| DB 4 CL | 224.1 | DT 3 P | 86.1 |
| DB 4 P | 128.1 | DT 3 S | 86.1 |
| DB 4 S | 128.1 | DT 6 P | 201.2 |
| DB 5 CL | 196.2 | DT 6 S | 201.2 |
| DB 5 P | 178.0 | DT 4 P/S | 100.0 |
| DB 5 S | 180.0 | DT 5 P/S | 108.4 |
| DIS/WATER | 20.0 | | |

A. 280.2 ft
B. 284.1 ft
C. 285.3 ft
D. 286.2 ft

ANS. D

3010 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

| **ITEM** | **TONS** | **KG** |
|---|---|---|
| CREW and STORES | 50 | 43.7 |
| LUBE OIL | 13 | 25.8 |
| F.O. & SALT WATER | 2608 | 8.5 |
| FRESH WATER | 80 | 20.0 |
| DRY CARGO | 5469 | 25.5 |
| REEFER CARGO | 225 | 28.2 |
| DECK CARGO | 113 | 55.0 |
| TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD | 18993 | |

A. Available GM 4.07 ft
B. Available GM 4.60 ft
C. Available GM 4.69 ft
D. Available GM 4.81 ft

ANS. A

3030 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the KG of the liquid load.

| | | | |
|---|---|---|---|
| DB 1 CL | 48.2 | DT 2 P | 100.0 |
| DB 1A CL | 81.9 | DT 2 S | 100.0 |
| DB 2 P | 71.2 | DT 3 P | 86.0 |
| DB 2 S | 71.2 | DT 3 S | 86.0 |
| DB 3 P | 55.6 | DT 4 P/S | 120.0 |
| DB 3 S | 55.6 | DT 5 P/S | 108.4 |
| DB 5 CL | 196.2 | DT 6 P | 201.0 |
| DB 7 P | 94.6 | DT 6 S | 201.0 |
| DB 7 S | 94.6 | | |

A. 7.7 feet
B. 9.1 feet
C. 9.9 feet
D. 10.6 feet

ANS. D

3036 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the LCG-FP of the liquid load.

| | | | |
|---|---|---|---|
| DB 2 P | 71.2 | DB 5 CL | 196.2 |
| DB 2 S | 71.2 | DB 5 P | 178.0 |
| DB 3 CL | 220.0 | DB 5 S | 180.0 |
| DB 3 P | 55.6 | DB 6 CL | 242.3 |
| DB 3 S | 224.1 | DB 6 S | 87.0 |
| DB 4 P | 128.1 | DB 7 P | 94.6 |
| DB 4 S | 128.1 | DB 7 S | 94.6 |
| DT 4 P/S | 110.0 | | |
| DT 5 P/S | 108.4 | | |

A. 262.3 ft
B. 264.9 ft
C. 268.1 ft
D. 270.3 ft

ANS. C

3038 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 18'-06", AFT 20'-06". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

| | | | |
|---|---|---|---|
| DB 1 CL | 48.2 | DB 5 CL | 180.0 |
| DB 1A CL | 81.9 | DB 5 P | 178.0 |
| DB 2 P | 71.2 | DB 5 S | 180.0 |
| DB 2 S | 71.2 | DB 6CL | 242.3 |
| DB 3 CL | 227.6 | DB 7 P | 94.6 |
| DB 3 P | 55.6 | DB 7 S | 94.6 |
| DB 3 S | 55.6 | DT 6 P | 201.2 |
| DB 4 CL | 200.0 | DT 6 S | 201.2 |
| DB 4 P | 128.1 | DT 7 P | 128.8 |
| DB 4 S | 128.1 | DT 7 S | 128.8 |

A. 1.10 feet
B. 0.91 foot
C. 0.72 foot
D. 0.68 foot

ANS. B

3042 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the LCG-FP of the liquid load.

| | | | |
|---|---|---|---|
| DB 4 CL | 224.1 | DB 6 CL | 200.0 |
| DB 4 P | 128.1 | DB 6 P | 87.0 |
| DB 4 S | 128.1 | DB 6 S | 87.0 |
| DB 5 CL | 196.2 | DT 1A CL | 257.6 |
| DB 5 P | 178.0 | DT 5 P/S | 108.4 |
| DB 5 S | 180.0 | | |

A. 271.2 ft
B. 260.3 ft
C. 251.9 ft
D. 247.2 ft

ANS. C

3072 The SS AMERICAN MARINER has on board 6450 tons of cargo with an LCG-FP of 274.46 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

| | |
|---|---|
| No. 1 Second Deck | 60 |
| No. 1 Third Deck | 70 |
| No. 2 Second Deck | 40 |
| No. 2 Tank Top | 100 |
| No. 3 Third Deck | 60 |
| No. 3 Tank Top | 70 |
| No. 4 Second Deck | 50 |
| No. 4 Tank Top | 80 |
| No. 5 Second Deck | 60 |
| No. 5 Tank Top | 60 |
| No. 6 Second Deck | 100 |
| No. 7 Third Deck | 80 |

A. LCG-FP 272.6 feet
B. LCG-FP 269.8 feet
C. LCG-FP 266.5 feet
D. LCG-FP 263.8 feet

ANS. B

3073 The SS AMERICAN MARINER arrived in port with drafts of: FWD 28'-04", AFT 29'-10". Cargo was loaded and discharged as indicated. Use sheet 2 in the white pages of the Stability Data Reference Book to determine the final drafts.
Discharge 240 tons---155 feet fwd of amidships
Discharge 160 tons--- 38 feet fwd of amidships
Load 115 tons--- 35 feet aft of amidships
Discharge 170 tons---205 feet aft of amidships

A. FWD 27'-01", AFT 29'-11"
B. FWD 27'-03", AFT 29'-09"
C. FWD 27'-05", AFT 29'-07"
D. FWD 27'-07", AFT 29'-05"

ANS. B

3076 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 11'-06", AFT 14'-06". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stablity Data Reference Book to determine the free surface correction.

| | | | |
|---|---|---|---|
| DB 3 CL | 180.0 | DT 2 P | 80.0 |
| DB 3 P | 55.6 | DT 2 S | 80.0 |
| DB 3 S | 55.6 | DT 3 P | 86.1 |
| DB 4 CL | 224.1 | DT 3 S | 86.1 |
| DB 4 P | 128.1 | DT 6 P | 201.2 |
| DB 4 S | 128.1 | DT 6 S | 201.2 |
| DB 5 CL | 180.0 | | |
| DB 5 P | 178.0 | | |
| DB 5 S | 180.0 | | |

A. 0.87 foot
B. 0.98 foot
C. 1.14 feet
D. 1.25 feet

ANS. C

3083 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the KG of the liquid load.

| | | | |
|---|---|---|---|
| DB 1 CL | 48.2 | DT 2 P | 100.0 |
| DB 1A CL | 81.9 | DT 2 S | 100.0 |
| DB 2 P | 71.2 | DT 3 P | 86.0 |
| DB 2 S | 71.2 | DT 3 S | 86.0 |
| DB 3 P | 55.6 | DT 4 P/S | 120.0 |
| DB 3 S | 55.6 | DT 5 P/S | 108.4 |
| DB 5 CL | 196.2 | DT 6 P | 201.0 |
| DB 7 P | 87.0 | DT 6 S | 201.0 |
| DB 7 S | 87.0 | | |

A. 7.7 feet
B. 9.1 feet
C. 9.9 feet
D. 10.7 feet

ANS. D

3106 The SS AMERICAN MARINER has on board 5480 tons of cargo with an LCG-FP of 272.20 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

| | |
|---|---|
| No. 1 Second Deck | 70 |
| No. 1 Third Deck | 70 |
| No. 2 Third Deck | 80 |
| No. 2 Tank Top | 65 |
| No. 3 Third Deck | 55 |
| No. 3 Tank Top | 80 |
| No. 4 Second Deck | 50 |
| No. 4 Tank Top | 90 |
| No. 5 Upper Level Flt | 70 |
| No. 5 Tank Top | 70 |
| No. 6 Second Deck | 80 |
| No. 6 Third Deck | 60 |

A. LCG-FP 272.2 feet
B. LCG-FP 268.3 feet
C. LCG-FP 265.1 feet
D. LCG-FP 263.4 feet

ANS. C

3109 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the KG of the liquid load.

| | | | |
|---|---|---|---|
| DB 1 CL | 48.2 | DB 5 CL | 196.2 |
| DB 1A CL | 81.9 | DB 6 CL | 242.3 |
| DB 2 P | 71.2 | DB 6 P | 87.0 |
| DB 2 S | 71.2 | DB 6 S | 87.0 |
| DB 3 CL | 227.6 | DB 7 P | 94.6 |
| DB 4 CL | 224.1 | DB 7 S | 94.6 |
| DB 4 P | 128.1 | DT 4 P/S | 120.0 |
| DB 4 S | 128.1 | | |

A. 3.9 feet
B. 4.3 feet
C. 4.7 feet
D. 5.1 feet

ANS. A

3118 The SS AMERICAN MARINER has on board 4850 tons of cargo with an LCG-FP of 275.72 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

| | |
|---|---|
| No. 1 Third Deck | 150 |
| No. 2 Tank Top | 100 |
| No. 3 Third Deck | 75 |
| No. 3 Tank Top | 50 |
| No. 4 Second Deck | 80 |
| No. 4 Third Deck | 100 |
| No. 5 Third Deck | 90 |
| No. 5 Tank Top | 100 |
| No. 6 Third Deck | 120 |

A. LCG-FP 268.3 feet
B. LCG-FP 265.4 feet
C. LCG-FP 261.2 feet
D. LCG-FP 256.9 feet

ANS. A

3141 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

| ITEM | TONS | KG |
|---|---|---|
| CREW and STORES | 50 | 43.7 |
| LUBE OIL | 13 | 25.8 |
| F.O. & SALT WATER | 2608 | 8.5 |
| FRESH WATER | 80 | 20.0 |
| DRY CARGO | 5469 | 25.5 |
| REEFER CARGO | 225 | 28.2 |
| DECK CARGO | 113 | 55.0 |

TOTAL FREE SURFACE MOMENTS 15585
FOR ALL LIQUIDS ON BOARD

A. Available GM 4.81 ft
B. Available GM 4.69 ft
C. Available GM 4.60 ft
D. Available GM 4.28 ft

ANS. D

3146 The SS AMERICAN MARINER has on board 6048 tons of cargo with an LCG-FP of 270.89 feet. See the distribution of the cargo to be loaded. Use the white pages of the Stability Data Reference Book to determine the final LCG-FP of the cargo.

| | |
|---|---|
| No. 1 Third Deck | 90 |
| No. 2 Third Deck | 80 |
| No. 2 Tank Top | 100 |
| No. 3 Second Deck | 50 |
| No. 3 Third Deck | 80 |
| No. 3 Tank Top | 75 |
| No. 4 Tank Top | 100 |
| No. 5 Third Deck | 80 |
| No. 5 26'-6" Flat REEFER | 50 |
| No. 5 Third Deck REEFER | 60 |
| No. 6 Second Deck | 100 |
| No. 7 Second Deck | 80 |

A. LCG-FP 263.4 feet
B. LCG-FP 266.6 feet
C. LCG-FP 267.8 feet
D. LCG-FP 269.4 feet

ANS. B

3148 The SS AMERICAN MARINER arrived in port with drafts of: FWD 29'-06", AFT 29'-02". Cargo was loaded and discharged as indicated. Use sheet 2 in the white pages of the Stability Data Reference Book to determine the final drafts.

| | | |
|---|---|---|
| Load | 125 tons | ---155 feet fwd of amidships |
| Discharge | 160 tons | --- 68 feet fwd of amidships |
| Load | 140 tons | --- 75 feet aft of amidships |
| Load | 170 tons | ---185 feet aft of amidships |

A. FWD 29'-07", AFT 29'-08"
B. FWD 29'-05", AFT 29'-10"
C. FWD 29'-03", AFT 30'-00"
D. FWD 29'-01", AFT 30'-02"

ANS. C

3168 The SS AMERICAN MARINER has on board 6080 tons of cargo with an LCG-FP of 270.71 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

| | |
|---|---|
| No. 1 Second Deck | 75 |
| No. 1 Third Deck | 80 |
| No. 2 Third Deck | 60 |
| No. 2 Tank Top | 90 |
| No. 3 Second Deck | 80 |
| No. 3 Third Deck | 75 |
| No. 4 Third Deck | 90 |
| No. 4 Tank Top | 60 |
| No. 5 Second Deck | 50 |
| No. 5 26'-6" Flat | 50 |
| No. 5 Third Deck | 50 |
| No. 5 26'-6" Flat REEFER | 70 |
| No. 6 Second Deck | 75 |
| No. 6 Third Deck | 60 |
| No. 7 Third Deck | 80 |

A. LCG-FP 270.8 feet
B. LCG-FP 269.2 feet
C. LCG-FP 267.6 feet
D. LCG-FP 266.7 feet

ANS. D

3177 The SS AMERICAN MARINER will sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the drafts.

| **Item** | **Tons** | **LCG-FP** |
|---|---|---|
| F.O. & SALT WATER | 2824 | 268.5 |
| FRESH WATER | 160 | 312.0 |
| DRY CARGO | 7190 | 267.5 |
| REEFER CARGO | 170 | 354.0 |
| DECK CARGO | 155 | 60.2 |

A. FWD 25'-07", AFT 27'-01"
B. FWD 25'-02", AFT 27'-06"
C. FWD 24'-10", AFT 27'-10"
D. FWD 24'-08", AFT 28'-00"

ANS. C

3195 The SS AMERICAN MARINER will sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the drafts.

| Item | Tons | LCG-FP |
|---|---|---|
| F.O. & SALT WATER | 1810 | 260.5 |
| FRESH WATER | 120 | 296.0 |
| DRY CARGO | 3450 | 262.5 |
| REEFER CARGO | 100 | 354.0 |
| DECK CARGO | 60 | 59.0 |

A. FWD 18'-05", AFT 21'-05"
B. FWD 18'-00", AFT 21'-10"
C. FWD 18'-06", AFT 22'-01"
D. FWD 17'-10", AFT 22'-00"

ANS. D

3225 The SS AMERICAN MARINER arrived in port with drafts of: FWD 18'-05", AFT 20'-11". Cargo was loaded and discharged as indicated. Use sheet 2 in the white pages of the Stability Data Reference Book to determine the final drafts.

| | |
|---|---|
| Load | 120 tons---210 feet fwd of amidships |
| Discharge | 350 tons--- 40 feet fwd of amidships |
| Load | 340 tons--- 60 feet aft of amidships |
| Discharge | 60 tons--- 190 feet aft of amidships |

A. FWD 18'-07", AFT 20'-11"
B. FWD 18'-09", AFT 20'-09"
C. FWD 18'-11", AFT 20'-07"
D. FWD 19'-01", AFT 20'-05"

ANS. A

3245 The SS AMERICAN MARINER will sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the drafts.

| Item | Tons | LCG-FP |
|---|---|---|
| F.O. & SALT WATER | 1380 | 285.0 |
| FRESH WATER | 220 | 298.0 |
| DRY CARGO | 9610 | 268.0 |
| REEFER CARGO | 310 | 354.0 |
| DECK CARGO | 90 | 60.0 |

A. FWD 25'-02", AFT 29'-10"
B. FWD 25'-06", AFT 29'-06"
C. FWD 27'-10", AFT 26'-02"
D. FWD 29'-11", AFT 25'-04"

ANS. A

3249 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the LCG-FP of the liquid load.

| | | | |
|---|---|---|---|
| DB 1 CL | 48.2 | DB 6 CL | 200.0 |
| DB 1A CL | 81.9 | DB 6 P | 87.0 |
| DB 2 P | 71.2 | DB 6 S | 87.0 |
| DB 2 S | 71.2 | DT 1A CL | 257.6 |
| DB 4 CL | 224.1 | DT 4 P/S | 50.0 |
| DB 4 P | 128.1 | DT 5 P/S | 108.4 |
| DB 4 S | 128.1 | DIS/WATER | 10.0 |
| DB 5 CL | 196.2 | | |
| DB 5 P | 178.0 | | |
| DB 5 S | 180.0 | | |

A. 231.0 ft
B. 234.3 ft
C. 244.6 ft
D. 251.5 ft

ANS. A

3266 The SS AMERICAN MARINER will sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the drafts.

| **Item** | **Tons** | **LCG-FP** |
|---|---|---|
| F.O. & SALT WATER | 1950 | 269.3 |
| FRESH WATER | 232 | 303.6 |
| DRY CARGO | 3280 | 260.5 |
| REEFER CARGO | 195 | 354.0 |
| DECK CARGO | 122 | 60.0 |

A. FWD 17'-11", AFT 22'-07"
B. FWD 17'-09", AFT 23'-01"
C. FWD 17'-05", AFT 23'-04"
D. FWD 17'-02", AFT 23'-04"

ANS. A

3285 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the LCG-FP of the liquid load.

| | | | |
|---|---|---|---|
| DB 1 CL | 48.2 | DB 7 P | 94.6 |
| DB 1A CL | 81.9 | DB 7 S | 94.6 |
| DB 2 P | 71.2 | DT 2 P | 100.7 |
| DB 2 S | 71.2 | DT 2 S | 100.7 |
| DB 4 P | 128.1 | DT 6 P | 201.2 |
| DB 4 S | 128.1 | DT 6 S | 201.2 |
| DB 5 CL | 196.2 | DT 7 P | 128.8 |
| DB 5 P | 178.0 | DT 7 S | 128.8 |
| DB 5 S | 180.0 | DT 4 P/S | 110.0 |
| DB 6 CL | 200.0 | DT 5 P/S | 108.4 |
| DB 6 P | 87.0 | DIS/WATER | 20.0 |
| DB 6 S | 87.0 | | |

A. 271.2 ft
B. 288.8 ft
C. 292.3 ft
D. 307.2 ft

ANS. D

3286 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the LCG-FP of the liquid load.

| | | | |
|---|---|---|---|
| DB 1 CL | 48.2 | DB 6 CL | 242.3 |
| DB 1A CL | 81.9 | DB 6 P | 87.0 |
| DB 2 P | 71.2 | DB 6 S | 87.0 |
| DB 2 S | 71.2 | DB 7 P | 94.6 |
| DB 3 CL | 227.6 | DB 7 S | 94.6 |
| DB 3 P | 55.6 | DT 1 CL | 125.3 |
| DB 3 S | 55.6 | DT 1A CL | 257.6 |
| DB 4 CL | 224.1 | DT 6 P | 201.2 |
| DB 4 P | 128.1 | DT 6 S | 201.2 |
| DB 4 S | 128.1 | DT 4 P/S | 120.0 |
| DB 5 CL | 196.2 | DT 5 P/S | 108.4 |
| DB 5 P | 150.0 | DIS/WATER | 20.0 |
| DB 5 S | 150.0 | | |

A. 270.6 ft
B. 261.2 ft
C. 250.5 ft
D. 246.8 ft
ANS. C

3306 The SS AMERICAN MARINER will sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the drafts.

| Item | Tons | LCG-FP |
|---|---|---|
| F.O. & SALT WATER | 3215 | 263.2 |
| FRESH WATER | 160 | 312.0 |
| DRY CARGO | 7880 | 268.5 |
| REEFER CARGO | 140 | 354.5 |
| DECK CARGO | 120 | 60.0 |

A. FWD 26'-09", AFT 28'-05"
B. FWD 26'-05", AFT 28'-07"
C. FWD 26'-04", AFT 28'-10"
D. FWD 26'-00", AFT 29'-00"
ANS. B

3311 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

| ITEM | TONS | KG |
|---|---|---|
| CREW and STORES | 50 | 43.7 |
| LUBE OIL | 13 | 25.8 |
| F.O. & SALT WATER | 2608 | 8.5 |
| FRESH WATER | 80 | 20.0 |
| DRY CARGO | 5469 | 25.5 |
| REEFER CARGO | 225 | 28.2 |
| DECK CARGO | 113 | 55.0 |

TOTAL FREE SURFACE MOMENTS 20454
FOR ALL LIQUIDS ON BOARD

A. Available GM 3.51 ft
B. Available GM 3.60 ft
C. Available GM 3.98 ft
D. Available GM 4.28 ft
ANS. C

3315 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the LCG-FP of the liquid load.

| | | | |
|---|---|---|---|
| DB 1 CL | 48.2 | DB 6 P | 87.0 |
| DB 1A CL | 81.9 | DB 6 S | 87.0 |
| DB 2 P | 71.2 | DB 7 P | 94.6 |
| DB 2 S | 71.2 | DB 7 S | 94.6 |
| DB 4 P | 128.1 | DT 2 P | 100.7 |
| DB 4 S | 128.1 | DT 2 S | 100.7 |
| DB 5 CL | 196.2 | DT 7 P | 128.8 |
| DB 5 P | 178.0 | DT 7 S | 128.8 |
| DB 5 S | 180.0 | DT 4 P/S | 110.0 |
| DB 6 CL | 200.0 | DT 5 P/S | 108.4 |
| | | DIS/WATER | 20.0 |

A. 271.2 ft
B. 291.0 ft
C. 288.8
D. 305.3 ft
ANS. B

3333 The SS AMERICAN MARINER arrived in port with drafts of: FWD 18'-06", AFT 21'-10". Cargo was loaded and discharged as indicated. Use sheet 2 in the white pages of the Stability Data Reference Book to determine the final drafts.

| | | |
|---|---|---|
| Load | 140 tons | ---170 feet fwd of amidships |
| Discharge | 320 tons | --- 60 feet fwd of amidships |
| Load | 270 tons | ---132 feet aft of amidships |
| Discharge | 230 tons | ---190 feet aft of amidships |

A. FWD 18'-05", AFT 21'-07"
B. FWD 18'-07", AFT 21'-05"
C. FWD 18'-09", AFT 21'-03"
D. FWD 18'-11", AFT 21'-01"
ANS. B

3364 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

| | |
|---|---|
| Deck cargo | 180 Tons |
| Upper tween deck layer | 2800 Tons |
| Lower tween deck layer | 2800 Tons |
| Hold layer | 2300 Tons |

A. 444 tons
B. 644 tons
C. 1044 tons
D. 1263 tons

ANS. D

3384 The SS AMERICAN MARINER is ready to load the cargo listed. There is already 4236 tons of cargo on board with a KG of 27.2 feet. Use the white pages of the Stability Data Reference Book to determine the final KG of all the cargo after loading is completed.

| | |
|---|---|
| No. 1 Second Deck | 80 |
| No. 1 Third Deck | 75 |
| No. 2 Third Deck | 60 |
| No. 2 Tank Top | 94 |
| No. 3 Second Deck | 101 |
| No. 3 Tank Top | 57 |
| No. 4 Third Deck | 75 |
| No. 4 Tank Top | 83 |
| No. 5 Tank Top | 90 |
| No. 5 26'-6" Flat (Reefer) | 30 |
| No. 5 Third Dk Reefer | 30 |

A. KG 26.9 feet
B. KG 27.3 feet
C. KG 27.8 feet
D. KG 28.1 feet
ANS. A

3392 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

| | |
|---|---|
| Deck cargo | 250 Tons |
| Upper tween deck layer | 2800 Tons |
| Lower tween deck layer | 3200 Tons |
| Hold layer | 3200 Tons |

A. 595 tons
B. 870 tons
C. 1200 tons
D. 1350 tons

ANS. A

3411 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the KG of the liquid load.

| | | | |
|---|---|---|---|
| DB 4 CL | 224.1 | DT 2 P | 100.7 |
| DB 4 P | 128.1 | DT 2 S | 100.7 |
| DB 4 S | 128.1 | DT 3 P | 86.1 |
| DB 5 CL | 180.0 | DT 3 S | 86.1 |
| DB 5 P | 178.0 | DT 4 P/S | 105.0 |
| DB 5 S | 180.0 | DT 5 P/S | 108.4 |
| DB 6 CL | 242.3 | DIS/WATER | 20.0 |
| DB 6 P | 87.0 | | |
| DB 6 S | 87.0 | | |

A. 7.9 feet
B. 7.3 feet
C. 6.4 feet
D. 4.3 feet

ANS. A

3424 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

| | |
|---|---|
| Deck cargo | 300 Tons |
| Upper tween deck layer | 2700 Tons |
| Lower tween deck layer | 3650 Tons |
| Hold layer | 2650 Tons |

A. 1920 tons
B. 1280 tons
C. 895 tons
D. 720 tons

ANS. C

3432 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the KG of the liquid load.

| | | | |
|---|---|---|---|
| DB 4 CL | 224.1 | DB 6 CL | 200.0 |
| DB 4 P | 128.1 | DB 6 P | 87.0 |
| DB 4 S | 128.1 | DB 6 S | 87.0 |
| DB 5 CL | 196.2 | DT 1A CL | 257.6 |
| DB 5 P | 178.0 | DT 5 P/S | 108.4 |
| DB 5 S | 180.0 | | |

A. 6.1 feet
B. 5.8 feet
C. 5.4 feet
D. 4.9 feet

ANS. B

3434 The SS AMERICAN MARINER is ready to load the cargo listed. There is already 4260 tons of cargo on board with a KG of 25.8 feet. Use the white pages of the Stability Data Reference Book to determine the final KG of all the cargo after loading is completed.

| | |
|---|---|
| No. 1 Second Deck | 70 |
| No. 1 Third Deck | 70 |
| No. 2 Third Deck | 80 |
| No. 2 Tank Top | 65 |
| No. 3 Third Deck | 55 |
| No. 3 Tank Top | 80 |
| No. 4 Second Deck | 50 |
| No. 4 Tank Top | 90 |
| No. 5 Upper Level Flt | 70 |
| No. 5 Tank Top | 70 |
| No. 6 Second Deck | 80 |
| No. 6 Third Deck | 60 |

A. KG 24.6 feet
B. KG 25.0 feet
C. KG 25.4 feet
D. KG 25.9 feet

ANS. D

3448 The SS AMERICAN MARINER is ready to load the cargo listed. There is already 3485 tons of cargo on board with a KG of 24.4 feet. Use the white pages of the Stability Data Reference Book to determine the final KG of all the cargo after loading is completed.

| | |
|---|---|
| No. 1 Second Deck | 160 |
| No. 2 Third Deck | 85 |
| No. 2 Tank Top | 70 |
| No. 3 Second Deck | 80 |
| No. 3 Tank Top | 75 |
| No. 4 Second Deck | 40 |
| No. 4 Tank Top | 120 |
| No. 5 26'-6", Flat | 150 |
| No. 6 Second Deck | 85 |
| No. 6 Third Deck | 70 |

A. KG 25.1 feet
B. KG 25.6 feet
C. KG 26.0 feet
D. KG 26.5 feet

ANS. B

3464 The SS AMERICAN MARINER is ready to load the cargo listed. There is already 3175 tons of cargo on board with a KG of 25.8 feet. Use the white pages of the Stability Data Reference Book to determine the final KG of all the cargo after loading is completed.

| | |
|---|---|
| No. 1 Second Deck | 420 |
| No. 2 Third Deck | 410 |
| No. 3 Third Deck | 406 |
| No. 4 Third Deck | 418 |
| No. 5 Tank Top | 421 |
| No. 6 Third Deck | 412 |

A. KG 26.8 feet
B. KG 27.3 feet
C. KG 28.2 feet
D. KG 28.5 feet

ANS. A

3482 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the KG of the liquid load.

| | | | |
|---|---|---|---|
| DB 2 P | 71.2 | DB 5 CL | 196.2 |
| DB 2 S | 71.2 | DB 5 P | 178.0 |
| DB 3 CL | 227.6 | DB 5 S | 180.0 |
| DB 3 P | 55.6 | DB 6 CL | 242.3 |
| DB 3 S | 55.6 | DB 6 P | 87.0 |
| DB 4 CL | 150.0 | DB 6 S | 87.0 |
| DB 4 P | 100.0 | DB 7 P | 94.6 |
| DB 4 S | 90.0 | DB 7 S | 94.6 |
| DT 1 CL | 125.3 | | |
| DT 1A CL | 257.6 | | |

A. 5.1 feet
B. 4.9 feet
C. 2.9 feet
D. 2.5 feet

ANS. B

3495 The SS AMERICAN MARINER arrived in port with drafts of: FWD 17'-10", AFT 19'-06". Cargo was loaded and discharged as indicated. Use sheet 2 in the white pages of the Stability Data Reference Book to determine the final drafts.

| | | |
|---|---|---|
| Load | 95 tons | ---210 feet fwd of amidships |
| Discharge | 160 tons | --- 60 feet fwd of amidships |
| Load | 140 tons | --- 60 feet aft of amidships |
| Load | 170 tons | ---190 feet aft of amidships |

A. FWD 16'-10", AFT 21'-02"
B. FWD 17'-00", AFT 21'-00"
C. FWD 17'-02", AFT 20'-10"
D. FWD 17'-04", AFT 20'-08"

ANS. D

3504 The SS AMERICAN MARINER is ready to load the cargo listed. There is already 6280 tons of cargo on board with a KG of 25.5 feet. Use the white pages of the Stability Data Reference Book to determine the final KG of all the cargo after loading is completed.

| | |
|---|---|
| No. 1 Second Deck | 90 |
| No. 1 Third Deck | 70 |
| No. 2 Third Deck | 80 |
| No. 2 Tank Top | 85 |
| No. 4 Second Deck | 100 |
| No. 4 Third Deck | 75 |
| No. 4 Tank Top | 60 |
| No. 5 Tank Top | 100 |
| No. 5 Upper (Reefer) | 75 |
| No. 5 Third Deck Reef | 70 |
| No. 6 Second Deck | 40 |
| No. 6 Third Deck | 40 |
| No. 7 Second Deck | 100 |
| No. 7 Third Deck | 50 |

A. KG 25.3 feet
B. KG 25.7 feet
C. KG 26.0 feet
D. KG 27.1 feet

ANS. C

3514 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the KG of the liquid load.

| | | | |
|---|---|---|---|
| DB 4 CL | 224.1 | DB 7 P | 90.0 |
| DB 4 P | 128.1 | DB 7 S | 90.0 |
| DB 4 S | 128.1 | DT 1 CL | 125.3 |
| DB 5 CL | 196.2 | DT 1A CL | 257.6 |
| DB 5 P | 178.0 | DT 4 P/S | 100.0 |
| DB 5 S | 180.0 | DT 5 P/S | 108.4 |
| DB 6 CL | 242.3 | DIS/WATER | 24.9 |
| DB 6 P | 87.0 | | |
| DB 6 S | 87.0 | | |

A. 2.8 feet
B. 4.6 feet
C. 6.8 feet
D. 7.1 feet

ANS. D

3528 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the LCG-FP of the liquid load.

| | | | |
|---|---|---|---|
| DB 1 CL | 48.2 | DB 6 P | 87.0 |
| DB 1A CL | 81.9 | DB 6 S | 87.0 |
| DB 2 P | 71.2 | DB 7 P | 94.6 |
| DB 2 S | 71.2 | DB 7 S | 94.6 |
| DB 4 P | 128.1 | DT 2 P | 100.7 |
| DB 4 S | 128.1 | DT 2 S | 100.7 |
| DB 5 CL | 196.2 | DT 6 P | 201.2 |
| DB 5 P | 178.0 | DT 6 S | 201.2 |
| DB 5 S | 180.0 | DT 4 P/S | 110.0 |
| DB 6 CL | 200.0 | DT 5 P/S | 108.4 |
| | | DIS/WATER | 20.0 |

A. 271.2 ft
B. 288.8 ft
C. 294.4 ft
D. 305.3 ft

ANS. C

3529 The SS AMERICAN MARINER has the following drafts: FWD 08'-11.5", AFT 15'-11.5". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

| | |
|---|---|
| Stores | 50 Tons |
| Lube oil | 13 Tons |
| Cargo | 8240 Tons |
| Fuel oil | 3200 Tons |
| Fresh water | 240 Tons |
| Ballast | 0 Tons |

A. 2.15 feet
B. 2.05 feet
C. 1.95 feet
D. 1.75 feet

ANS. B

3547 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

| ITEM | TONS | KG |
|---|---|---|
| CREW and STORES | 50 | 43.7 |
| LUBE OIL | 13 | 25.8 |
| F.O. & SALT WATER | 2608 | 7.5 |
| FRESH WATER | 80 | 21.0 |
| DRY CARGO | 5469 | 27.0 |
| REEFER CARGO | 225 | 29.2 |
| DECK CARGO | 113 | 55.0 |

TOTAL FREE SURFACE MOMENTS 22273
FOR ALL LIQUIDS ON BOARD

A. Available GM 3.5 ft
B. Available GM 3.9 ft
C. Available GM 4.3 ft
D. Available GM 4.8 ft

ANS. A

3549 The SS AMERICAN MARINER arrived in port with drafts of: FWD 18'-10", AFT 18'-06". Cargo was loaded and discharged as indicated. Use sheet 2 in the white pages of the Stability Data Reference Book to determine the final drafts.

| | | |
|---|---|---|
| Load | 140 tons--- | 170 feet fwd of amidships |
| Discharge | 160 tons--- | 60 feet fwd of amidships |
| Discharge | 140 tons--- | 60 feet aft of amidships |
| Load | 230 tons--- | 190 feet aft of amidships |

A. FWD 18'-00", AFT 19'-06"
B. FWD 18'-02", AFT 19'-04"
C. FWD 18'-04", AFT 19'-02"
D. FWD 18'-06", AFT 19'-00"

ANS. C

3576 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stablility Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

| | |
|---|---|
| Deck cargo | 300 Tons |
| Upper tween deck layer | 1800 Tons |
| Lower tween deck layer | 2900 Tons |
| Hold layer | 3100 Tons |

A. 1220 tons
B. 840 tons
C. 460 tons
D. 344 tons
ANS. D

3583 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the KG of the liquid load.

| | | | |
|---|---|---|---|
| DB 2 P | 71.2 | DB 5 CL | 196.2 |
| DB 2 S | 71.2 | DB 5 P | 178.0 |
| DB 3 CL | 220.0 | DB 5 S | 180.0 |
| DB 3 P | 55.6 | DB 6 CL | 242.3 |
| DB 3 S | 55.6 | DB 6 P | 87.0 |
| DB 4 CL | 224.1 | DB 6 S | 87.0 |
| DB 4 P | 128.1 | DB 7 P | 94.6 |
| DB 4 S | 128.1 | DB 7 S | 94.6 |
| DT 4 P/S | 110.0 | | |
| DT 5 P/S | 108.4 | | |

A. 2.6 feet
B. 2.8 feet
C. 3.1 feet
D. 4.3 feet
ANS. D

3622 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

| | |
|---|---|
| Deck cargo | 180 Tons |
| Upper tween deck layer | 3000 Tons |
| Lower tween deck layer | 3500 Tons |
| Hold layer | 2500 Tons |

A. 451 tons
B. 1126 tons
C. 1451 tons
D. 1726 tons

ANS. B

3636 The SS AMERICAN MARINER has the following drafts: FWD 08'-11.5", AFT 15'-11.5". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

| | |
|---|---|
| Stores | 50 Tons |
| Lube oil | 13 Tons |
| Cargo | 2105 Tons |
| Fuel oil | 1860 Tons |
| Fresh water | 108 Tons |
| Ballast | 0 Tons |

A. 3.15 feet
B. 3.05 feet
C. 2.90 feet
D. 2.80 feet
ANS. B

3658 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the LCG-FP of the liquid load.

| | | | |
|---|---|---|---|
| DB 1 CL | 48.2 | DB 6 CL | 200.0 |
| DB 1A CL | 81.9 | DB 6 P | 87.0 |
| DB 2 P | 71.2 | DB 6 S | 87.0 |
| DB 2 S | 71.2 | DB 7 P | 94.6 |
| DB 4 CL | 224.1 | DB 7 S | 94.6 |
| DB 4 P | 128.1 | DT 2 P | 100.7 |
| DB 4 S | 128.1 | DT 2 S | 100.7 |
| DB 5 CL | 196.2 | DT 4 P/S | 110.0 |
| DB 5 P | 178.0 | DT 5 P/S | 108.4 |
| DB 5 S | 180.0 | DIS/WATER | 20.0 |

A. 226.9 ft
B. 238.3 ft
C. 252.4 ft
D. 268.8 ft

ANS. D

3668 The SS AMERICAN MARINER is loaded with the cargo shown. Use the white pages of The Stability Data Reference Book to determine the amount of liquid loading required in the double bottom tanks to meet a one compartment standard.

| | |
|---|---|
| Deck cargo | 300 Tons |
| Upper tween deck layer | 3000 Tons |
| Lower tween deck layer | 1500 Tons |
| Hold layer | 2500 Tons |

A. 920 tons
B. 1120 tons
C. 1245 tons
D. 1545 tons
ANS. D

3792 The SS AMERICAN MARINER has the following drafts: FWD 08'-11.5", AFT 15'-11.5". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

| | |
|---|---|
| Stores | 50 Tons |
| Lube oil | 13 Tons |
| Cargo | 3036 Tons |
| Fuel oil | 2636 Tons |
| Fresh water | 154 Tons |
| Ballast | 204 Tons |

A. 3.10 feet
B. 2.45 feet
C. 2.00 feet
D. 1.50 feet
ANS. B

3832 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the LCG-FP of the liquid load.

| | | | |
|---|---|---|---|
| DB 1 CL | 48.2 | DB 5 P | 178.0 |
| DB 1A CL | 81.9 | DB 5 S | 180.0 |
| DB 2 P | 71.2 | DB 6 CL | 200.0 |
| DB 2 S | 71.2 | DB 6 P | 87.0 |
| DB 3 CL | 227.6 | DB 6 S | 87.0 |
| DB 4 CL | 224.1 | DT 2 P | 100.7 |
| DB 4 P | 128.1 | DT 2 S | 100.7 |
| DB 4 S | 128.1 | DT 4 P/S | 110.0 |
| DB 5 CL | 196.2 | DT 5 P/S | 108.4 |
| | | DIS/WATER | 20.0 |

A. 229.8 ft
B. 234.3 ft
C. 246.8 ft
D. 251.5 ft

ANS. C

3902 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

| **ITEM** | **TONS** | **KG** |
|---|---|---|
| CREW and STORES | 50 | 43.7 |
| LUBE OIL | 13 | 25.8 |
| F.O. & SALT WATER | 1906 | 7.5 |
| FRESH WATER | 160 | 21.0 |
| DRY CARGO | 815 | 27.0 |
| REEFER CARGO | 125 | 29.2 |
| DECK CARGO | 155 | 55.0 |
| TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD | 17899 | |

A. Available GM 3.0 ft
B. Available GM 3.7 ft
C. Available GM 4.0 ft
D. Available GM 4.2 ft

ANS. A

3934 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the LCG-FP of the liquid load.

| | | | |
|---|---|---|---|
| DB 1 CL | 48.2 | DB 5 P | 178.0 |
| DB 1A CL | 81.9 | DB 5 S | 180.0 |
| DB 2 P | 71.2 | DB 6 CL | 200.0 |
| DB 2 S | 71.2 | DB 6 P | 87.0 |
| DB 3 CL | 227.6 | DB 6 S | 87.0 |
| DB 4 CL | 224.1 | DT 1A CL | 257.6 |
| DB 4 P | 128.1 | DT 2 P | 100.7 |
| DB 4 S | 128.1 | DT 2 S | 100.7 |
| DB 5 CL | 196.2 | DT 4 P/S | 110.0 |
| DT 5 P/S | 108.4 | | |
| DIS/WATER | 20.0 | | |

A. 228.8 ft
B. 238.3 ft
C. 252.4 ft
D. 266.5 ft
ANS. A

3996 The SS AMERICAN MARINER has the following drafts: FWD 08'-11.5", AFT 15'-11.5". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

| | |
|---|---|
| Stores | 50 Tons |
| Lube oil | 13 Tons |
| Cargo | 4623 Tons |
| Fuel oil | 1800 Tons |
| Fresh water | 108 Tons |
| Ballast | 130 Tons |

A. 2.85 feet
B. 2.65 feet
C. 2.36 feet
D. 2.15 feet
ANS. C

4006 The SS AMERICAN MARINER arrived in port with drafts of: FWD 18'-06", AFT 20'-10". Cargo was loaded and discharged as indicated. Use sheet 2 in the white pages of the Stability Data Reference Book to determine the final drafts.

| | |
|---|---|
| Load | 140 tons---170 feet fwd of amidships |
| Discharge | 160 tons--- 60 feet fwd of amidships |
| Load | 140 tons---132 feet aft of amidships |
| Discharge | 230 tons---190 feet aft of amidships |

A. FWD 18'-11", AFT 20'-02"
B. FWD 19'-01", AFT 20'-00"
C. FWD 19'-03", AFT 19'-10"
D. FWD 19'-05", AFT 19'-08"
ANS. D

4074 The SS AMERICAN MARINER has the following drafts: FWD 08'-11.5", AFT 15'-11.5". Upon completion of loading and bunkering the items listed will be on board. Use the white pages of The Stability Data Reference Book to determine the minimum GM required to meet a one compartment standard.

| | |
|---|---|
| Stores | 50 Tons |
| Lube oil | 13 Tons |
| Cargo | 7212 Tons |
| Fuel oil | 2485 Tons |
| Fresh water | 98 Tons |
| Ballast | 0 Tons |

A. 2.20 feet
B. 2.00 feet
C. 1.80 feet
D. 1.65 feet

ANS. C

4094 The SS AMERICAN MARINER arrived in port with drafts of: FWD 19'-10.5", AFT 22'-11.6". Cargo was loaded and discharged as shown. Use sheet 2 in the white pages of The Stability Data Reference Book to determine the final drafts.

| | |
|---|---|
| Load | 90 tons--210 ft fwd of amidships |
| Discharge | 240 tons-- 38 ft fwd of amidships |
| Discharge | 120 tons-- 94 ft aft of amidships |
| Load | 140 tons--150 ft aft of amidships |

A. FWD 20'-01.4", AFT 23'-00.6"
B. FWD 19'-07.6", AFT 22'-10.4"
C. FWD 19'-09.3", AFT 22'-08.7"
D. FWD 19'-11.7", AFT 23'-02.5"
ANS. B

4114 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the LCG-FP of the liquid load.

| | | | |
|---|---|---|---|
| DB 1 CL | 48.2 | DB 6 CL | 200.0 |
| DB 1A CL | 81.9 | DB 6 P | 87.0 |
| DB 2 P | 71.2 | DB 6 S | 87.0 |
| DB 2 S | 71.2 | DT 1A CL | 257.6 |
| DB 4 P | 128.1 | DT 2 P | 100.7 |
| DB 4 S | 128.1 | DT 2 S | 100.7 |
| DB 5 CL | 196.2 | DT 4 P/S | 110.0 |
| DB 5 P | 178.0 | DT 5 P/S | 108.4 |
| DB 5 S | 180.0 | DIS/WATER | 20.0 |

A. 229.8 ft
B. 236.7 ft
C. 244.6 ft
D. 251.5 ft
ANS. B

4178 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the LCG-FP of the liquid load.

| | | | |
|---|---|---|---|
| DB 1 CL | 48.2 | DB 6 CL | 200.0 |
| DB 1A CL | 81.9 | DB 6 P | 87.0 |
| DB 2 P | 71.2 | DB 6 S | 87.0 |
| DB 2 S | 71.2 | DT 1A CL | 257.6 |
| DB 3 P | 55.6 | DT 2 P | 100.7 |
| DB 3 S | 55.6 | DT 2 S | 100.7 |
| DB 4 P | 128.1 | DT 7 P | 128.8 |
| DB 4 S | 128.1 | DT 7 S | 128.8 |
| DB 5 CL | 196.2 | DT 4 P/S | 110.0 |
| DB 5 P | 178.0 | DT 5 P/S | 108.4 |
| DB 5 S | 180.0 | DIS/WATER | 20.0 |

A. 229.8 ft
B. 234.3 ft
C. 244.6 ft
D. 253.5 ft

ANS. D

4222 The SS AMERICAN MARINER has the liquid loading shown. Use the white pages of The Stability Data Reference Book to determine the LCG-FP of the liquid load.

| | | | |
|---|---|---|---|
| DB 1 CL | 48.2 | DB 5 P | 178.0 |
| DB 1A CL | 81.9 | DB 5 S | 180.0 |
| DB 2 P | 71.2 | DB 6 CL | 200.0 |
| DB 2 S | 71.2 | DT 2 P | 100.7 |
| DB 3 P | 55.6 | DT 2 S | 100.7 |
| DB 3 S | 55.6 | DT 6 P | 201.2 |
| DB 4 P | 128.1 | DT 6 S | 201.2 |
| DB 4 S | 128.1 | DT 4 P/S | 110.0 |
| DB 5 CL | 196.2 | DT 5 P/S | 80.0 |
| | | DIS/WATER | 20.0 |

A. 273.5 ft
B. 288.8 ft
C. 292.3 ft
D. 305.3 ft

ANS. A

4204 You are loading in a port subject to the summer load line mark and bound for a port subject to the tropical load line mark. You will enter the tropical zone after steaming four days. You will consume 33 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.006, and the average TPI is 66. What is the minimum freeboard required at the start of the voyage?

| FREEBOARD | FROM DECK LINE | LOAD LINE |
|---|---|---|
| Tropical | 77 inches (T) | 7 inches above (S) |
| Summer | 84 inches (S) | * |
| Winter | 91 inches (W) | 7 inches below (S) |

Fresh water allowance 8 inches

A. 78 inches
B. 82 inches
C. 86 inches
D. 88 inches

ANS. A

4206 You are loading in a port subject to the tropical load line mark and bound for a port subject to the summer load line mark. You will enter the summer zone after steaming two days. You will consume 28 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.020, and the average TPI is 55. What is the minimum freeboard required at the start of the voyage?

| FREEBOARD | FROM DECK LINE | LOAD LINE |
|---|---|---|
| Tropical | 69 inches (T) | 7 inches above (S) |
| Summer | 76 inches (S) | * |
| Winter | 83 inches (W) | 7 inches below (S) |

Fresh water allowance 6 inches

A. 62 inches
B. 66 inches
C. 70 inches
D. 74 inches

ANS. D

4208 You are loading in a port subject to the winter load line mark and bound for a port subject to the summer load line mark. You will enter the summer zone after steaming six days. You will consume 32 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.005, and the average TPI is 65. What is the minimum freeboard required at the start of the voyage?

| FREEBOARD FROM DECK LINE | | LOAD LINE |
|---|---|---|
| Tropical | 72 inches (T) | 7 inches above (S) |
| Summer | 79 inches (S) | * |
| Winter | 86 inches (W) | 7 inches below (S) |

Fresh water allowance 6 inches

A. 93 inches
B. 90 inches
C. 81 inches
D. 70 inches

ANS. C

4209 You are loading in a port subject to the tropical load line mark and bound for a port subject to the summer load line mark. You will enter the summer zone after steaming four days. You will consume 41 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.000 and the average TPI is 55. What is the minimum freeboard required at the start of the voyage?

| FREEBOARD FROM DECK LINE | | LOAD LINE |
|---|---|---|
| Tropical | 43 inches (T) | 6 inches above (S) |
| Summer | 49 inches (S) | * |
| Winter | 54 inches (W) | 6 inches below (S) |

Fresh water allowance 5 inches

A. 55 inches
B. 49 inches
C. 44 inches
D. 41 inches

ANS. D

4210 You are loading in a port subject to the summer load line mark and bound for a port subject to the winter load line mark. You will enter the winter zone after steaming four days. You will consume 35 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.0083, and the average TPI is 65. What is the minimum freeboard required at the start of the voyage?

| FREEBOARD FROM DECK LINE | | LOAD LINE |
|---|---|---|
| Tropical | 68 inches (T) | 6 inches above (S) |
| Summer | 74 inches (S) | * |
| Winter | 80 inches (W) | 6 inches below (S) |

Fresh water allowance 6 inches

A. 74 inches
B. 78 inches
C. 80 inches
D. 86 inches

ANS. A

4212 You are loading in a port subject to the tropical load line mark and bound for a port subject to the summer load line mark. You will enter the summer zone after steaming ten days. You will consume 33 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.021, and the average TPI is 51. What is the minimum freeboard required at the start of the voyage?

| FREEBOARD FROM DECK LINE | | LOAD LINE |
|---|---|---|
| Tropical | 73 inches (T) | 6 inches above (S) |
| Summer | 79 inches (S) | * |
| Winter | 85 inches (W) | 6 inches below (S) |

Fresh water allowance 6 inches

A. 76.0 inches
B. 74.0 inches
C. 73.0 inches
D. 72.0 inches

ANS. D

4214 You are loading in a port subject to the tropical load line mark and bound for a port subject to the winter load line mark. You will enter the summer zone after steaming eight days, and you will enter the winter zone after ten days. You will consume 31 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.016, and the average TPI is 41. What is the minimum freeboard required at the start of the voyage?

| FREEBOARD FROM DECK LINE | | LOAD LINE |
|---|---|---|
| Tropical | 66 inches (T) | 6 inches above (S) |
| Summer | 72 inches (S) | * |
| Winter | 78 inches (W) | 6 inches below (S) |

Fresh water allowance 6 inches

A. 72 inches
B. 70 inches
C. 68 inches
D. 64 inches

ANS. C

4216 You are loading in a port subject to the tropical load line mark and bound for a port subject to the winter load line mark. You will enter the summer zone after steaming four days, and you will enter the winter zone after nine days. You will consume 29 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.008, and the average TPI is 53. What is the minimum freeboard required at the start of the voyage?

| FREEBOARD FROM DECK LINE | | LOAD LINE |
|---|---|---|
| Tropical | 75 inches (T) | 8 inches above (S) |
| Summer | 83 inches (S) | * |
| Winter | 91 inches (W) | 8 inches below (S) |

Fresh water allowance 9 inches

A. 72.5 inches
B. 75.0 inches
C. 77.0 inches
D. 80.0 inches

ANS. D

4218 You are loading in a port subject to the winter load line mark and bound for a port subject to the tropical load line mark. You will enter the summer zone after steaming four days, and you will enter the tropical zone after twelve days. You will consume 31 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.000, and the average TPI is 46. What is the minimum freeboard required at the start of the voyage?

| FREEBOARD FROM DECK LINE | | LOAD LINE |
|---|---|---|
| Tropical | 72 inches (T) | 5 inches above (S) |
| Summer | 77 inches (S) * | |
| Winter | 82 inches (W) | 5 inches below (S) |

Fresh water allowance 4 inches

A. 78 inches
B. 74 inches
C. 70 inches
D. 68 inches

ANS. A

4219 You are loading in a port subject to the tropical load line mark and bound for a port subject to the winter load line mark. You will enter the summer zone after steaming one day, and you will enter the winter zone after eleven days. You will consume 33 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.004, and the average TPI is 46. What is the minimum freeboard required at the start of the voyage?

| FREEBOARD FROM DECK LINE | | LOAD LINE |
|---|---|---|
| Tropical | 81 inches (T) | 7 inches above (S) |
| Summer | 88 inches (S) | * |
| Winter | 95 inches (W) | 7 inches below (S) |

Fresh water allowance 6 inches

A. 85 inches
B. 82 inches
C. 80 inches
D. 78 inches

ANS. B

4220 You are loading in a port subject to the winter load line mark and bound for a port subject to the tropical load line mark. You will enter the summer zone after steaming four days, and you will enter the tropical zone after twelve days. You will consume 39 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.025, and the average TPI is 49. What is the minimum freeboard required at the start of the voyage?

| FREEBOARD FROM DECK LINE | | LOAD LINE |
|---|---|---|
| Tropical | 76 inches (T) | 7 inches above (S) |
| Summer | 83 inches (S) * | |
| Winter | 90 inches (W) | 7 inches below (S) |

Fresh water allowance 10 inches

A. 90 inches
B. 87 inches
C. 80 inches
D. 77 inches

ANS. A

4224 You are loading in a port subject to the tropical load line mark and bound for a port subject to the winter load line mark. You will enter the summer zone after steaming eleven days, and you will enter the winter zone after fourteen days. You will consume 36 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.025, and the average TPI is 51. What is the minimum freeboard required at the start of the voyage?

| FREEBOARD FROM DECK LINE | | LOAD LINE |
|---|---|---|
| Tropical | 75 inches (T) | 8 inches above (S) |
| Summer | 83 inches (S) | * |
| Winter | 91 inches (W) | 8 inches below (S) |

Fresh water allowance 7 inches

A. 75.0 inches
B. 76.0 inches
C. 79.5 inches
D. 81.0 inches

ANS. D

4226 You are loading in a port subject to the winter load line mark and bound for a port subject to the tropical load line mark. You will enter the summer zone after steaming four days, and you will enter the tropical zone after seven days. You will consume 38 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.004, and the average TPI is 72. What is the minimum freeboard required at the start of the voyage?

| FREEBOARD | FROM DECK LINE | LOAD LINE |
|---|---|---|
| Tropical | 81 inches (T) | 7 inches above (S) |
| Summer | 88 inches (S) | * |
| Winter | 95 inches (W) | 7 inches below (S) |

Fresh water allowance 6 inches

A. 85 inches
B. 90 inches
C. 92 inches
D. 94 inches

ANS. B

4228 You are loading in a port subject to the tropical load line mark and bound for a port subject to the winter load line mark. You will enter the summer zone after steaming one day, and you will enter the winter zone after eight days. You will consume 36 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.002, and the TPI is 47. What is the minimum freeboard required at the start of the voyage?

| FREEBOARD | FROM DECK LINE | LOAD LINE |
|---|---|---|
| Tropical | 74 inches (T) | 7 inches above (S) |
| Summer | 81 inches (S) * | |
| Winter | 88 inches (W) | 7 inches below (S) |

Fresh water allowance 10 inches

A. 71.0 inches
B. 72.7 inches
C. 79.5 inches
D. 81.0 inches

ANS. B

4229 You are loading in a port subject to the tropical load line mark and bound for a port subject to the winter load line mark. You will enter the summer zone after steaming one and one-half days, and you will enter the winter zone after six days. You will consume 29 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.006, and the average TPI is 43. What is the minimum freeboard required at the start of the voyage?

| FREEBOARD FROM DECK LINE | | LOAD LINE |
|---|---|---|
| Tropical | 71 inches (T) | 7 inches above (S) |
| Summer | 78 inches (S) * | |
| Winter | 85 inches (W) | 7 inches below (S) |

Fresh water allowance 6 inches

A. 79.5 inches
B. 76.5 inches
C. 75.0 inches
D. 72.5 inches

ANS. B

4230 You are loading in a port subject to the tropical load line mark and bound for a port subject to the winter load line mark. You will enter the summer zone after steaming six days. You will enter the winter zone after an additional three days. You will consume 28 tons of fuel, water, and stores per day. The hydrometer reading at the loading pier is 1.020, and the average TPI is 46. What is the minimum freeboard required at the start of the voyage?

| FREEBOARD FROM DECK LINE | | LOAD LINE |
|---|---|---|
| Tropical | 61 inches (T) | 5 inches above (S) |
| Summer | 66 inches (S) * | |
| Winter | 71 inches (W) | 5 inches below (S) |

Fresh water allowance 5 inches

A. 61.4 inches
B. 64.5 inches
C. 70.6 inches
D. 77.5 inches

ANS. B

4312 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 11'-01", AFT 14'-07". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

| | | | |
|---|---|---|---|
| DB 1 CL | 48.2 | DB 7 P | 94.6 |
| DB 1A CL | 60.0 | DB 7 S | 94.6 |
| DB 2 P | 71.2 | DT 1A CL | 251.6 |
| DB 2 S | 71.2 | DT 2 P | 100.7 |
| DB 4 CL | 224.1 | DT 2 S | 100.7 |
| DB 4 P | 105.0 | DT 3 P | 86.1 |
| DB 4 S | 105.0 | DT 3 S | 86.1 |
| DB 5 CL | 196.2 | DT 6 P | 165.0 |
| DB 6 CL | 200.0 | DT 6 S | 165.0 |
| DB 6 P | 87.0 | DT 7 P | 128.8 |
| DB 6 S | 87.0 | DT 7 S | 128.8 |

A. 1.30 feet
B. 1.17 foot
C. 1.06 foot
D. 0.91 foot

ANS. A

4326 The SS AMERICAN MARINER has on board 4850 tons of cargo with an LCG-FP of 279.84 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

| | |
|---|---|
| No. 1 Main Deck | 60 |
| No. 1 Third Deck | 80 |
| No. 2 Second Deck | 70 |
| No. 2 Tank Top | 220 |
| No. 3 Second Deck | 50 |
| No. 4 Third Deck | 110 |
| No. 4 Tank Top | 350 |
| No. 5 26'-6" Flat CL | 110 |
| No. 5 26'-6" Flt P/S RFR | 80 |
| No. 6 Second Deck | 90 |
| No. 6 Third Deck | 110 |
| No. 7 Third Deck | 80 |

A. LCG-FP 267.7 feet
B. LCG-FP 268.4 feet
C. LCG-FP 269.2 feet
D. LCG-FP 270.6 feet

ANS. D

4336 The SS AMERICAN MARINER has on board 5486 tons of cargo with an LCG-FP of 277.84 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

| | |
|---|---|
| No. 1 Third Deck | 80 |
| No. 2 Second Deck | 70 |
| No. 2 Tank Top | 120 |
| No. 3 Second Deck | 50 |
| No. 3 Tank Top | 410 |
| No. 4 Tank Top | 350 |
| No. 5 26'-6" Flat CL | 110 |
| No. 5 26'-6" Flt P/S RFR | 80 |
| No. 5 Tank Top | 180 |
| No. 6 Second Deck | 90 |
| No. 6 Third Deck | 180 |
| No. 7 Third Deck | 140 |

A. LCG-FP 271.2 feet
B. LCG-FP 272.1 feet
C. LCG-FP 273.6 feet
D. LCG-FP 274.6 feet

ANS. C

4402 The SS AMERICAN MARINER has on board 6584 tons of cargo with an LCG-FP of 277.84 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

| | |
|---|---|
| No. 1 Second Deck | 60 |
| No. 2 Second Deck | 70 |
| No. 2 Tank Top | 120 |
| No. 3 Second Deck | 180 |
| No. 3 Tank Top | 410 |
| No. 4 Second Deck | 140 |
| No. 5 Upper Level Flat | 110 |
| No. 5 Tank Top | 180 |
| No. 6 Second Deck | 90 |
| No. 6 Third Deck | 70 |
| No. 7 Second Deck | 130 |
| No. 7 Third Deck | 140 |

A. LCG-FP 271.2 feet
B. LCG-FP 272.1 feet
C. LCG-FP 273.6 feet
D. LCG-FP 274.6 feet

ANS. D

4484 The SS AMERICAN MARINER has on board 6285 tons of cargo with an LCG-FP of 272.45 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

| | |
|---|---|
| No. 1 Second Deck | 60 |
| No. 2 Second Deck | 120 |
| No. 2 Tank Top | 140 |
| No. 3 Second Deck | 180 |
| No. 4 Second Deck | 140 |
| No. 4 Tank Top | 320 |
| No. 5 Second Deck | 70 |
| No. 5 Tank Top | 180 |
| No. 6 Second Deck | 90 |
| No. 6 Third Deck | 70 |
| No. 7 Second Deck | 130 |
| No. 7 Third Deck | 140 |

A. LCG-FP 271.2 feet
B. LCG-FP 272.1 feet
C. LCG-FP 273.6 feet
D. LCG-FP 274.6 feet

ANS. B

4534 The SS AMERICAN MARINER has on board 5577 tons of cargo with an LCG-FP of 275.55 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

| | |
|---|---|
| No. 1 Main Deck | 70 |
| No. 2 Second Deck | 120 |
| No. 2 Third Deck | 130 |
| No. 3 Second Deck | 180 |
| No. 3 Tank Top | 430 |
| No. 4 Tank Top | 320 |
| No. 5 Tank Top | 320 |
| No. 6 Second Deck | 70 |
| No. 6 Third Deck | 180 |
| No. 7 Second Deck | 120 |
| No. 7 Third Deck | 140 |

A. LCG-FP 271.2 feet
B. LCG-FP 272.1 feet
C. LCG-FP 273.6 feet
D. LCG-FP 274.6 feet

ANS. A

4574 The SS AMERICAN MARINER has on board 4824 tons of cargo with an LCG-FP of 277.45 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

| | |
|---|---|
| No. 1 Main Deck | 90 |
| No. 2 Second Deck | 160 |
| No. 2 Third Deck | 130 |
| No. 3 Second Deck | 180 |
| No. 4 Second Deck | 220 |
| No. 4 Tank Top | 320 |
| No. 5 26'-6"Flt P/S RFR | 110 |
| No. 6 Second Deck | 70 |
| No. 7 Second Deck | 120 |
| No. 7 Third Deck | 140 |

A. LCG-FP 267.7 feet
B. LCG-FP 268.4 feet
C. LCG-FP 269.2 feet
D. LCG-FP 270.6 feet

ANS. C

4644 The SS AMERICAN MARINER has on board 7240 tons of cargo with an LCG-FP of 273.20 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

| | |
|---|---|
| No. 1 Main Deck | 120 |
| No. 2 Third Deck | 120 |
| No. 3 Second Deck | 80 |
| No. 3 Second Deck | 320 |
| No. 5 Second Deck | 90 |
| No. 5 Third Deck | 210 |
| No. 5 Tank Top | 450 |
| No. 7 Second Deck | 110 |
| No. 7 Third Deck | 140 |

A. LCG-FP 271.2 feet
B. LCG-FP 272.1 feet
C. LCG-FP 273.6 feet
D. LCG-FP 275.3 feet

ANS. D

4652 The SS AMERICAN MARINER has on board 3245 tons of cargo with an LCG-FP of 272.20 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

| | |
|---|---|
| No. 1 Main Deck | 90 |
| No. 1 Second Deck | 100 |
| No. 2 Second Deck | 160 |
| No. 2 Third Deck | 130 |
| No. 3 Tank Top | 380 |
| No. 4 Tank Top | 320 |
| No. 5 Tank Top | 360 |
| No. 5 26'-6"Flt P/S RFR | 110 |
| No. 6 Second Deck | 120 |
| No. 6 Third Deck | 110 |
| No. 7 Second Deck | 120 |
| No. 7 Third Deck | 140 |

A. LCG-FP 267.7 feet
B. LCG-FP 268.4 feet
C. LCG-FP 269.2 feet
D. LCG-FP 270.6 feet

ANS. A

4746 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 12'-07", AFT 16'-01". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

| | |
|---|---|
| DB 1 CL 48.2 | DT 6 P 201.2 |
| DB 2 P 65.0 | DT 6 S 201.2 |
| DB 2 S 65.0 | |
| DB 3 CL 227.6 | |
| DB 4 CL 224.1 | |
| DB 5 CL 196.2 | |
| DB 5 P 178.0 | |
| DB 5 S 180.0 | |
| DB 6 CL 220.0 | |
| DB 7 P 90.0 | |
| DB 7 S 90.0 | |

A. 1.30 feet
B. 1.07 foot
C. 0.96 foot
D. 0.82 foot

ANS. B

4748 The SS AMERICAN MARINER has on board 3885 tons of cargo with an LCG-FP of 278.45 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

| | |
|---|---|
| No. 1 Main Deck | 90 |
| No. 1 Second Deck | 100 |
| No. 2 Second Deck | 160 |
| No. 2 Third Deck | 130 |
| No. 3 Second Deck | 180 |
| No. 3 Tank Top | 380 |
| No. 4 Tank Top | 320 |
| No. 5 Second Deck | 160 |
| No. 5 26'-6"Flt P/S RFR | 110 |
| No. 5 Tank Top | 360 |
| No. 6 Second Deck | 110 |
| No. 7 Second Deck | 120 |
| No. 7 Third Deck | 140 |

A. LCG-FP 267.7 feet
B. LCG-FP 268.4 feet
C. LCG-FP 269.2 feet
D. LCG-FP 270.6 feet

ANS. B

4778 The SS AMERICAN MARINER has on board 5540 tons of cargo with an LCG-FP of 272.20 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

| | |
|---|---|
| No. 1 Main Deck | 120 |
| No. 2 Second Deck | 120 |
| No. 2 Third Deck | 130 |
| No. 3 Tank Top | 380 |
| No. 4 Tank Top | 320 |
| No. 5 26'-6"Flt P/S RFR | 110 |
| No. 6 Second Deck | 120 |
| No. 6 Third Deck | 110 |
| No. 7 Second Deck | 120 |
| No. 7 Third Deck | 140 |

A. LCG-FP 266.5 feet
B. LCG-FP 267.8 feet
C. LCG-FP 268.4 feet
D. LCG-FP 269.2 feet

ANS. B

4812 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 21'-04", AFT 26'-04". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

| | | | |
|---|---|---|---|
| DB 1 CL | 48.2 | DB 6 CL | 242.3 |
| DB 1A CL | 81.9 | DB 6 P | 87.0 |
| DB 2 P | 71.2 | DB 6 S | 87.0 |
| DB 2 S | 71.2 | DB 7 P | 66.2 |
| DB 3 CL | 227.6 | DB 7 S | 58.4 |
| DB 3 P | 55.6 | DT 1 | 84.2 |
| DB 3 S | 55.6 | DT 1A CL | 235.6 |
| DB 4 CL | 224.1 | DT 3 P | 86.1 |
| DB 4 P | 128.1 | DT 3 S | 86.1 |
| DB 4 S | 128.1 | DT 6 P | 201.2 |
| DB 5 CL | 196.2 | DT 6 S | 201.2 |
| DT 7 P | 128.8 | | |
| DT 7 S | 128.8 | | |

A. 0.54 foot
B. 0.62 foot
C. 0.80 foot
D. 0.85 foot

ANS. A

5068 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 19'-00", AFT 24'-00". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

| | | | |
|---|---|---|---|
| DB 1 CL | 48.2 | DB 6 P | 87.0 |
| DB 1A CL | 81.9 | DB 6 S | 87.0 |
| DB 2 P | 71.2 | DB 7 P | 94.6 |
| DB 2 S | 71.2 | DB 7 S | 94.6 |
| DB 3 CL | 227.6 | DT 2 P | 100.7 |
| DB 4 CL | 224.1 | DT 2 S | 100.7 |
| DB 4 P | 128.1 | DT 3 P | 86.1 |
| DB 4 S | 128.1 | DT 3 S | 86.1 |
| DB 5 CL | 180.0 | DT 6 P | 201.2 |
| DB 5 P | 178.0 | DT 6 S | 201.2 |
| DB 5 S | 180.0 | DT 7 P | 128.8 |
| DB 6 CL | 212.0 | DT 7 S | 128.8 |

A. 0.62 foot
B. 0.80 foot
C. 0.85 foot
D. 0.99 foot

ANS. C

5098 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 20'-04", AFT 23'-06". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

| | | | |
|---|---|---|---|
| DB 1 CL | 48.2 | DB 7 P | 94.6 |
| DB 1A CL | 81.9 | DB 7 S | 94.6 |
| DB 2 P | 71.2 | DT 1 CL | 125.3 |
| DB 2 S | 71.2 | DT 1A CL | 235.6 |
| DB 3 CL | 214.4 | DT 2 P | 100.7 |
| DB 4 CL | 224.1 | DT 2 S | 100.7 |
| DB 4 P | 128.1 | DT 3 P | 86.1 |
| DB 4 S | 128.1 | DT 3 S | 86.1 |
| DB 6 CL | 212.0 | DT 6 P | 201.2 |
| DB 6 P | 87.0 | DT 6 S | 201.2 |
| DB 6 S | 87.0 | DT 7 P | 128.8 |
| DT 7 S | 128.8 | | |

A. 0.62 foot
B. 0.80 foot
C. 0.85 foot
D. 0.99 foot
ANS. B

5124 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 14'-04", AFT 18'-08". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

| | | | |
|---|---|---|---|
| DB 1 CL | 48.2 | DB 7 P | 94.6 |
| DB 1A CL | 81.9 | DB 7 S | 94.6 |
| DB 2 P | 71.2 | DT 1 CL | 125.3 |
| DB 2 S | 71.2 | DT 1A CL | 235.6 |
| DB 3 CL | 227.6 | DT 3 P | 86.1 |
| DB 3 P | 55.6 | DT 3 S | 86.1 |
| DB 3 S | 55.6 | DT 6 P | 201.2 |
| DB 4 CL | 224.1 | DT 6 S | 201.2 |
| DB 4 P | 128.1 | DT 7 P | 128.8 |
| DB 4 S | 128.1 | DT 7 S | 128.8 |
| DB 5 CL | 170.4 | | |
| DB 6 CL | 212.0 | | |

A. 1.05 feet
B. 1.15 feet
C. 1.25 feet
D. 1.31 feet

ANS. A

5234 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 15'-05", AFT 21'-03". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

| | | | |
|---|---|---|---|
| DB 1 CL | 48.2 | DB 6 P | 87.0 |
| DB 1A CL | 81.9 | DB 6 S | 87.0 |
| DB 2 P | 71.2 | DB 7 P | 94.6 |
| DB 2 S | 71.2 | DB 7 S | 94.6 |
| DB 3 CL | 227.6 | DT 1 CL | 125.3 |
| DB 3 P | 55.6 | DT 1A CL | 235.6 |
| DB 3 S | 55.6 | DT 3 P | 86.1 |
| DB 4 CL | 208.6 | DT 3 S | 86.1 |
| DB 4 P | 128.1 | DT 6 P | 201.2 |
| DB 4 S | 128.1 | DT 6 S | 201.2 |
| DB 5 CL | 180.4 | DT 7 P | 128.8 |
| DB 6 CL | 212.0 | DT 7 S | 128.8 |

A. 1.05 feet
B. 1.15 feet
C. 1.25 feet
D. 1.31 feet

ANS. B

5302 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 17'-05", AFT 19'-07". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

| | | | |
|---|---|---|---|
| DB 1 CL 4 | 8.2 | DB 7 P | 94.6 |
| DB 1A CL | 81.9 | DB 7 S | 94.6 |
| DB 2 P | 71.2 | DT 1 CL | 125.3 |
| DB 2 S | 71.2 | DT 1A CL | 235.6 |
| DB 3 CL | 227.6 | DT 3 P | 86.1 |
| DB 3 P | 55.6 | DT 3 S | 86.1 |
| DB 3 S | 55.6 | DT 6 P | 201.2 |
| DB 4 CL | 208.6 | DT 6 S | 201.2 |
| DB 4 P | 128.1 | DT 7 P | 128.8 |
| DB 4 S | 128.1 | DT 7 S | 128.8 |
| DB 5 CL | 196.2 | | |
| DB 6 CL | 212.0 | | |
| DB 6 P | 87.0 | | |
| DB 6 S | 87.0 | | |

A. 0.62 foot
B. 0.80 foot
C. 0.85 foot
D. 0.99 foot

ANS. D

5314 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 14'-04", AFT 18'-08". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

| | | | |
|---|---|---|---|
| DB 1 CL | 48.2 | DB 7 P | 94.6 |
| DB 1A CL | 81.9 | DB 7 S | 94.6 |
| DB 2 P | 71.2 | DT 1 CL | 125.3 |
| DB 2 S | 71.2 | DT 1A CL | 235.6 |
| DB 3 CL | 227.6 | DT 3 P | 86.1 |
| DB 3 P | 55.6 | DT 3 S | 86.1 |
| DB 3 S | 55.6 | DT 6 P | 201.2 |
| DB 4 CL | 208.6 | DT 6 S | 201.2 |
| DB 4 P | 128.1 | DT 7 P | 128.8 |
| DB 4 S | 128.1 | DT 7 S | 128.8 |
| DB 5 CL | 170.4 | | |
| DB 6 CL | 212.0 | | |

A. 1.05 feet
B. 1.15 feet
C. 1.25 feet
D. 1.31 feet

ANS. C

5412 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 21'-04", AFT 26'-04". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

| | | | |
|---|---|---|---|
| DB 1 CL | 48.2 | DB 7 P | 66.2 |
| DB 1A CL | 81.9 | DB 7 S | 58.4 |
| DB 2 P | 71.2 | DT 1 CL | 125.3 |
| DB 2 S | 71.2 | DT 1A CL | 235.6 |
| DB 3 CL | 227.6 | DT 3 P | 86.1 |
| DB 3 P | 55.6 | DT 3 S | 86.1 |
| DB 3 S | 55.6 | DT 6 P | 201.2 |
| DB 4 CL | 224.1 | DT 6 S | 201.2 |
| DB 4 P | 87.0 | DT 7 P | 128.8 |
| DB 4 S | 87.0 | DT 7 S | 128.8 |
| DB 5 CL | 196.2 | | |
| DB 6 CL | 242.3 | | |
| DB 6 P | 87.0 | | |
| DB 6 S | 87.0 | | |

A. 0.62 foot
B. 0.80 foot
C. 0.85 foot
D. 0.99 foot
ANS. A

5449 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 17'-06", AFT 20'-04". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

| | | | |
|---|---|---|---|
| DB 1 CL | 48.2 | DB 7 P | 44.6 |
| DB 1A CL | 81.9 | DB 7 S | 20.8 |
| DB 2 P | 71.2 | DT 1 CL | 125.3 |
| DB 2 S | 71.2 | DT 1A CL | 235.6 |
| DB 3 CL | 140.6 | DT 3 P | 86.1 |
| DB 3 P | 55.6 | DT 3 S | 86.1 |
| DB 3 S | 55.6 | DT 6 P | 201.2 |
| DB 4 CL | 224.1 | DT 6 S | 201.2 |
| DB 4 P | 87.0 | DT 7 P | 128.8 |
| DB 4 S | 87.0 | DT 7 S | 128.8 |
| DB 5 CL | 170.4 | | |
| DB 6 CL | 212.0 | | |

A. 1.05 feet
B. 1.15 feet
C. 1.25 feet
D. 1.31 feet

ANS. D

5462 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 13'-10", AFT 16'-04". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

| | | | |
|---|---|---|---|
| DB 1 CL | 40.0 | DT 6 P | 201.2 |
| DB 2 P | 65.0 | DT 6 S | 201.2 |
| DB 2 S | 65.0 | DT 7 P | 110.0 |
| DB 3 CL | 227.6 | DT 7 S | 110.0 |
| DB 4 CL | 224.1 | | |
| DB 4 P | 128.1 | | |
| DB 4 S | 128.1 | | |
| DB 5 CL | 196.2 | | |
| DB 5 P | 170.0 | | |
| DB 5 S | 170.0 | | |
| DB 6 CL | 242.3 | | |

A. 1.30 feet
B. 1.17 foot
C. 1.01 foot
D. 0.91 foot

ANS. C

5518 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 14'-04", AFT 17'-06". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

| | | | |
|---|---|---|---|
| DB 1 CL | 48.2 | DB 7 P | 44.6 |
| DB 1A CL | 81.9 | DB 7 S | 94.6 |
| DB 2 P | 71.2 | DT 1 CL | 125.3 |
| DB 2 S | 71.2 | DT 1A CL | 235.6 |
| DB 3 CL | 140.6 | DT 3 P | 86.1 |
| DB 3 P | 55.6 | DT 3 S | 86.1 |
| DB 3 S | 55.6 | DT 6 P | 201.2 |
| DB 4 CL | 224.1 | DT 6 S | 201.2 |
| DB 4 P | 087.0 | DT 7 P | 128.8 |
| DB 4 S | 087.0 | DT 7 S | 128.8 |
| DB 5 CL | 170.4 | | |
| DB 6 CL | 212.0 | | |

A. 1.15 feet
B. 1.25 feet
C. 1.31 feet
D. 1.48 feet

ANS. D

5574 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

| **ITEM** | **TONS** | **KG** |
|---|---|---|
| CREW and STORES | 50 | 43.7 |
| LUBE OIL | 13 | 25.8 |
| F.O. & SALT WATER | 1664 | 7.5 |
| FRESH WATER | 160 | 21.0 |
| DRY CARGO | 7190 | 27.0 |
| REEFER CARGO | 170 | 29.2 |
| DECK CARGO | 155 | 55.0 |
| TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD | 15138 | |

A. Available GM 2.8 ft
B. Available GM 3.2 ft
C. Available GM 3.5 ft
D. Available GM 3.8 ft

ANS. A

5604 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

| ITEM | TONS | KG |
|---|---|---|
| CREW and STORES | 50 | 43.7 |
| LUBE OIL | 13 | 25.8 |
| F.O. & SALT WATER | 1870 | 7.5 |
| FRESH WATER | 210 | 21.0 |
| DRY CARGO | 4882 | 27.0 |
| REEFER CARGO | 170 | 29.2 |
| DECK CARGO | 452 | 55.0 |

TOTAL FREE SURFACE MOMENTS 17555
FOR ALL LIQUIDS ON BOARD

A. Available GM 2.4 ft
B. Available GM 3.2 ft
C. Available GM 3.5 ft
D. Available GM 3.8 ft

ANS. A

5702 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

| ITEM | TONS | KG |
|---|---|---|
| CREW and STORES | 50 | 43.7 |
| LUBE OIL | 13 | 25.8 |
| F.O. & SALT WATER | 2335 | 7.5 |
| FRESH WATER | 190 | 21.0 |
| DRY CARGO | 5440 | 27.0 |
| REEFER CARGO | 225 | 29.2 |
| DECK CARGO | 377 | 55.0 |

TOTAL FREE SURFACE MOMENTS 15322
FOR ALL LIQUIDS ON BOARD

A. Available GM 2.8 ft
B. Available GM 3.2 ft
C. Available GM 3.5 ft
D. Available GM 3.8 ft

ANS. B

5752 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

| ITEM | TONS | KG |
|---|---|---|
| CREW and STORES | 50 | 43.7 |
| LUBE OIL | 13 | 25.8 |
| F.O. & SALT WATER | 2685 | 7.5 |
| FRESH WATER | 190 | 21.0 |
| DRY CARGO | 5440 | 27.0 |
| REEFER CARGO | 225 | 29.2 |
| DECK CARGO | 365 | 55.0 |
| TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD | 16854 | |

A. Available GM 2.8 ft
B. Available GM 3.2 ft
C. Available GM 3.5 ft
D. Available GM 3.8 ft

ANS. C

5786 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

| ITEM | TONS | KG |
|---|---|---|
| CREW and STORES | 50 | 43.7 |
| LUBE OIL | 13 | 25.8 |
| F.O. & SALT WATER | 2685 | 7.5 |
| FRESH WATER | 190 | 21.0 |
| DRY CARGO | 5440 | 27.0 |
| REEFER CARGO | 225 | 29.2 |
| DECK CARGO | 185 | 55.0 |
| TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD | 17324 | |

A. Available GM 2.8 ft
B. Available GM 3.2 ft
C. Available GM 3.5 ft
D. Available GM 3.8 ft

ANS. D

5864 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

| ITEM | TONS | KG |
|---|---|---|
| CREW and STORES | 50 | 43.7 |
| LUBE OIL | 13 | 25.8 |
| F.O. & SALT WATER | 2246 | 7.5 |
| FRESH WATER | 190 | 21.0 |
| DRY CARGO | 3556 | 27.0 |
| REEFER CARGO | 180 | 29.2 |
| DECK CARGO | 120 | 55.0 |

TOTAL FREE SURFACE MOMENTS 12366
FOR ALL LIQUIDS ON BOARD

A. Available GM 4.1 ft
B. Available GM 4.3 ft
C. Available GM 4.7 ft
D. Available GM 5.1 ft

ANS. A

5924 The SS AMERICAN MARINER is ready to bunker with drafts of FWD 13'-10", AFT 16'-04". After all bunkers are on board, soundings indicate the tonnages shown. Use the white pages of The Stability Data Reference Book to determine the free surface correction.

| | |
|---|---|
| DB 1 CL 40.0 | DT 6 P 201.2 |
| DB 2 P 65.0 | DT 6 S 201.2 |
| DB 2 S 65.0 | DT 7 P 128.8 |
| DB 3 CL 227.6 | DT 7 S 128.8 |
| DB 4 CL 224.1 | |
| DB 4 P 128.1 | |
| DB 4 S 128.1 | |
| DB 5 CL 196.2 | |
| DB 5 P 178.0 | |
| DB 5 S 180.0 | |
| DB 6 CL 242.3 | |

A. 1.30 feet
B. 1.07 foot
C. 0.96 foot
D. 0.73 foot

ANS. D

5936 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

| ITEM | TONS | KG |
|---|---|---|
| CREW and STORES | 50 | 43.7 |
| LUBE OIL | 13 | 25.8 |
| F.O. & SALT WATER | 2145 | 6.7 |
| FRESH WATER | 190 | 21.0 |
| DRY CARGO | 3710 | 26.4 |
| REEFER CARGO | 180 | 29.2 |
| DECK CARGO | 120 | 55.0 |
| TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD | 12088 | |

A. Available GM 4.1 ft
B. Available GM 4.3 ft
C. Available GM 4.7 ft
D. Available GM 5.1 ft

ANS. B

6004 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

| ITEM | TONS | KG |
|---|---|---|
| CREW and STORES | 50 | 43.7 |
| LUBE OIL | 13 | 25.8 |
| F.O. & SALT WATER | 2045 | 6.7 |
| FRESH WATER | 240 | 21.0 |
| DRY CARGO | 3112 | 25.8 |
| REEFER CARGO | 90 | 29.2 |
| DECK CARGO | 80 | 55.0 |
| TOTAL FREE SURFACE MOMENTS FOR ALL LIQUIDS ON BOARD | 11542 | |

A. Available GM 4.1 ft
B. Available GM 4.3 ft
C. Available GM 4.7 ft
D. Available GM 5.1 ft

ANS. C

6074 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

| ITEM | TONS | KG |
|---|---|---|
| CREW and STORES | 50 | 43.7 |
| LUBE OIL | 13 | 25.8 |
| F.O. & SALT WATER | 2845 | 7.3 |
| FRESH WATER | 180 | 21.0 |
| DRY CARGO | 3188 | 25.3 |
| REEFER CARGO | 40 | 29.2 |
| DECK CARGO | 257 | 55.0 |

TOTAL FREE SURFACE MOMENTS 11980
FOR ALL LIQUIDS ON BOARD

A. Available GM 4.1 ft
B. Available GM 4.3 ft
C. Available GM 4.7 ft
D. Available GM 5.1 ft

ANS. D

6102 The SS AMERICAN MARINER has on board 5480 tons of cargo with an LCG-FP of 274.46 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

| | |
|---|---|
| No. 1 Third Deck | 40 |
| No. 2 Second Deck | 30 |
| No. 2 Third Deck | 50 |
| No. 2 Tank Top | 80 |
| No. 3 Tank Top | 80 |
| No. 4 Tank Top | 220 |
| No. 5 Tank Top | 110 |
| No. 5 Third Deck REEFER | 40 |
| No. 6 Second Deck | 160 |
| No. 6 Third Deck | 80 |

A. LCG-FP 271.79 feet
B. LCG-FP 272.87 feet
C. LCG-FP 274.04 feet
D. LCG-FP 275.13 feet

ANS. B

6106 The SS AMERICAN MARINER is ready to sail with the load shown. Use the white pages of The Stability Data Reference Book to determine the available GM.

| ITEM | TONS | KG |
|---|---|---|
| CREW and STORES | 50 | 43.7 |
| LUBE OIL | 13 | 25.8 |
| F.O. & SALT WATER | 2845 | 7.3 |
| FRESH WATER | 180 | 21.0 |
| DRY CARGO | 3188 | 25.3 |
| REEFER CARGO | 40 | 29.2 |
| DECK CARGO | 60 | 55.0 |

TOTAL FREE SURFACE MOMENTS 12600
FOR ALL LIQUIDS ON BOARD

A. Available GM 4.3 ft
B. Available GM 4.7 ft
C. Available GM 5.1 ft
D. Available GM 5.5 ft

ANS. D

6618 The SS AMERICAN MARINER has on board 6048 tons of cargo with an LCG-FP of 270.71 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

| | |
|---|---|
| No. 1 Third Deck | 60 |
| No. 2 Second Deck | 50 |
| No. 2 Third Deck | 90 |
| No. 2 Tank Top | 40 |
| No. 3 Second Deck | 120 |
| No. 3 Tank Top | 70 |
| No. 5 Second Deck | 120 |
| No. 5 Tank Top | 280 |
| No. 6 Second Deck | 30 |

A. LCG-FP 267.03 feet
B. LCG-FP 267.92 feet
C. LCG-FP 268.66 feet
D. LCG-FP 269.94 feet

ANS. A

6619 The SS AMERICAN MARINER has on board 6450 tons of cargo with an LCG-FP of 270.89 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

| | |
|---|---|
| No. 1 Second Deck | 80 |
| No. 2 Second Deck | 110 |
| No. 2 Tank Top | 70 |
| No. 3 Tank Top | 90 |
| No. 4 Third Deck | 35 |
| No. 5 Second Deck | 60 |
| No. 5 Tank Top | 220 |
| No. 6 Second Deck | 40 |
| No. 6 Third Deck | 70 |
| No. 7 Second Deck | 100 |

A. LCG-FP 267.12 feet
B. LCG-FP 268.48 feet
C. LCG-FP 270.97 feet
D. LCG-FP 273.06 feet

ANS. C

7052 The SS AMERICAN MARINER has on board 4850 tons of cargo with an LCG-FP of 274.46 feet. See the distribution of the cargo to be loaded. Use the white pages of The Stability Data Reference Book to determine the final LCG-FP of the cargo.

| | |
|---|---|
| No. 1 Second | 75 |
| No. 2 Tank Top | 120 |
| No. 3 Second Deck | 60 |
| No. 3 Third Deck | 100 |
| No. 3 Tank Top | 80 |
| No. 4 Third Deck | 150 |
| No. 5 Upper Level Flat | 120 |
| No. 5 Tank Top | 90 |
| No. 5 Third Deck REEFER | 80 |
| No. 6 Third Deck | 40 |
| No. 7 Second Deck | 125 |

A. LCG-FP 271.23 feet
B. LCG-FP 270.96 feet
C. LCG-FP 269.52 feet
D. LCG-FP 267.88 feet

ANS. A

********************END OF BOOK FOUR********************

*******************START BOOK FIVE*******************

979 At 0900 zone time, on 23 September 1981, your DR position is LAT 28°48.0' N, LONG 153°11.5' W. You are steering course 257° T at a speed of 18.0 knots. You observed 3 morning sun lines. Determine the latitude and longitude of your 1020 running fix?

| ZONE TIME | GHA | OBSERVED ALTITUDE | DECLINATION |
|---|---|---|---|
| 0915 | 110°44.9' | 40°01.9' | S 0°15.8' |
| 0950 | 119°27.4' | 46°22.9' | S 0°16.3' |
| 1020 | 127°00.9' | 51°21.7' | S 0°16.8' |

A. 28°43.3' N, 153°32.1' W
B. 28°46.4' N, 153°34.6' W
C. 28°49.1' N, 153°37.0' W
D. 28°52.8' N, 153°30.6' W

ANS. C

992 At 0100 zone time, on 23 September 1981, your DR position is LAT 24°25.0' N, LONG 83°00.0' W. You are steering course 315° T. The speed over the ground is 10.0 knots. You observed 3 morning sun lines. Determine the latitude and longitude of your 1100 running fix?

| ZONE TIME | GHA | OBSERVED ALTITUDE(Ho) | DECLINATION |
|---|---|---|---|
| 0700 | 17°20.1' | 21°09.0' | S 00°09.7' |
| 0900 | 47°03.0' | 46°05.0' | S 00°11.6' |
| 1100 | 77°06.4' | 63°16.1' | S 00°13.5' |

A. LAT 25°35.3' N, LONG 84°17.0' W
B. LAT 25°42.6' N, LONG 84°18.7' W
C. LAT 25°30.4' N, LONG 84°28.6' W
D. LAT 25°28.3' N, LONG 84°34.3' W
ANS. A

993 Your 0745 ZT, 15 July 1981, position is LAT 29°04.0' N, LONG 71°17.5' W. You are on course 165° T, and your speed is 8.0 knots. You observed 3 morning sun lines. Determine the latitude and longitude of your 1130 running fix?

| ZONE TIME | GHA | OBSERVED ALTITUDE | DECLINATION |
|---|---|---|---|
| 0830 | 21°01.8' | 44°16.4' | N 21°29.2' |
| 0930 | 36°01.7' | 57°25.5' | N 21°28.8' |
| 1130 | 66°01.6' | 81°30.2' | N 21°28.0' |

A. LAT 28°35.0' N, LONG 71°08.5' W
B. LAT 28°39.8' N, LONG 71°04.0' W
C. LAT 28°40.5' N, LONG 71°13.0' W
D. LAT 28°43.3' N, LONG 71°02.5' W
ANS. A

99
994 At 0600 zone time, on 16 March 1981, your DR position is LAT 20°10.0' N, LONG 81°30.0' W. You are steering course 300° T. The speed over the ground is 10 knots. You observed 3 morning sun lines. Determine the latitude and longitude of your 1130 running fix?

| ZONE TIME | GHA | OBSERVED ALTITUDE(Ho) | DECLINATION |
|---|---|---|---|
| 0800 | 12°50.0' | 19°00.0' | S 01°38.8' |
| 1030 | 50°20.4' | 51°42.0' | S 01°36.5' |
| 1130 | 65°20.5' | 62°11.5' | S 01°35.5' |

A. LAT 20°28.5' N, LONG 82°12.6' W
B. LAT 20°32.0' N, LONG 82°16.4' W
C. LAT 20°39.0' N, LONG 82°22.9' W
D. LAT 20°42.5' N, LONG 82°26.2' W

ANS. C

1021 On 30 March 1981, your 0145 DR position is LAT 29°30' S, LONG 122°45' E. You are on course 055° T at a speed of 22 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?

| BODY | ZONE TIME | GHA | OBSERVED ALTITUDE(Ho) | DECLINATION |
|---|---|---|---|---|
| Fomalhaut | 0545 | 169°18.5' | 32°50.8' | S 29°43.4' |
| Altair | 0550 | 217°14.7' | 48°27.2' | N 8°48.9' |
| Spica | 0600 | 316°09.6' | 13°34.0' | S 11°03.8' |

A. LAT 28°24.6' S, LONG 124°21.4' E
B. LAT 28°39.9' S, LONG 124°18.6' E
C. LAT 28°41.5' S, LONG 124°41.5' E
D. LAT 29°20.1' S, LONG 123°41.0' E

ANS. B

1076 On 25 Mar 1981, your 0500 ZT DR position is LAT 28,14.0' S, LONG 93°17.0' E. You are on course 291° T at a speed of 16.0 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0550 running fix?

| BODY | ZONE TIME | GHA | OBSERVED ALTITUDE(Ho) | DECLINATION |
|---|---|---|---|---|
| Peacock | 0520 | 226°18.5' | 49°42.9' | S 56°47.6' |
| Altair | 0535 | 238°38.2' | 43°53.1' | N 8°48.9' |
| Spica | 0550 | 338°48.5' | 21°11.7' | S 11°03.8' |

A. LAT 28°15.9' S, LONG 92°56.9' E
B. LAT 28°19.3' S, LONG 92°59.0' E
C. LAT 28°06.4' S, LONG 93°02.5' E
D. LAT 27°53.2' S, LONG 93°17.6' E

ANS. A

1077 On 15 July 1981, your 1845 ZT DR position is LAT 27°42.0' N, LONG 167°02.0' E. You are on course 243° T at a speed of 16.0 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 1945 running fix?

| BODY | ZONE TIME | GHA | OBSERVED ALTITUDE(Ho) | DECLINATION |
|---|---|---|---|---|
| Deneb | 1905 | 104°08.0' | 19°52.4' | N 45°12.8' |
| Antares | 1924 | 172°02.1' | 32°22.1' | S 26°23.5' |
| Denebola | 1945 | 247°20.6' | 38°22.3' | N 14°40.7' |

A. LAT 27°31.1' N, LONG 166°43.0' E
B. LAT 27°38.5' N, LONG 166°45.1' E
C. LAT 27°45.3' N, LONG 166°32.2' E
D. LAT 27°46.9' N, LONG 166°39.8' E

ANS. A

1078 On 6 April 1981, your 1830 ZT DR position is LAT 26°33.0' N, LONG 64°31.0' W. You are on course 082° T at a speed of 16 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 1900 running fix?

| BODY | ZONE TIME | GHA | OBSERVED ALTITUDE(Ho) | DECLINATION |
|---|---|---|---|---|
| Sirius | 1836 | 73°02.7' | 46°00.5' | S 16°41.7' |
| Regulus | 1842 | 23°46.9' | 49°07.2' | N 12°03.5' |
| Mirfak | 1900 | 129°24.3' | 35°51.6' | N 49°47.7' |

A. LAT 26°49.5' N, LONG 64°06.5' W
B. LAT 26°32.5' N, LONG 64°27.1' W
C. LAT 26°31.2' N, LONG 64°32.1' W
D. LAT 26°28.7' N, LONG 64°32.1' W

ANS. B

1079 On 12 Dec. 1981, your 1830 ZT DR position is LAT 24°16.0' S, LONG 41°18.0' W. You are on course 235° T at a speed of 16.0 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 1930 running fix?

| BODY | ZONE TIME | GHA | OBSERVED ALTITUDE(Ho) | DECLINATION |
|---|---|---|---|---|
| Rigel | 1845 | 329°19.7' | 19°54.7'' | S 8°13.4' |
| Peacock | 1910 | 107°58.4' | 32°43.9'' | S 56°47.8' |
| Markab | 1930 | 73°04.1' | 39°53.1' | N 15°06.5' |

A. LAT 24°12.5' S, LONG 41°10.9' W
B. LAT 24°16.9' S, LONG 41°18.2' W
C. LAT 24°25.2' S, LONG 41°39.9' W
D. LAT 27°46.9' S, LONG 41°31.2' W

ANS. B

1080 On 20 Feb. 1981, your 0530 ZT DR position is LAT 24°15.0' N, LONG 137°33.0' W. You are on course 033° T at a speed of 18 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?

| BODY | ZONE TIME | GHA | OBSERVED ALTITUDE(Ho) | DECLINATION |
|---|---|---|---|---|
| Regulus | 0540 | 218°35.9' | 13°02.2' | N 12°03.5' |
| Antares | 0552 | 126°23.5' | 38°04.1' | S 26°23.3' |
| Vega | 0600 | 96°23.2' | 52°33.5' | N 38°45.8' |

A. LAT 24°23.3' N, LONG 137°35.5' W
B. LAT 24°26.0' N, LONG 137°25.8' W
C. LAT 24°27.5' N, LONG 137°31.8' W
D. LAT 24°30.1' N, LONG 137°24.5' W

ANS. C

1081 On 14 Sept 1981, your 1810 ZT DR position is LAT 27°12.0' S, LONG 71°10.0' E. You are on course 060° T at a speed of 15.0 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 1822 running fix?

| BODY | ZONE TIME | GHA | OBSERVED ALTITUDE(Ho) | DECLINATION |
|---|---|---|---|---|
| Venus | 1810 | 341°30.4' | 38°48.9'' | S 12°48.1' |
| Altair | 1816 | 255°00.4' | 41°20.3' | N 8°49.3' |
| Peacock | 1822 | 247°55.8' | 48°39.5' | S 56°47.8' |

A. LAT 27°04.5' S, LONG 71°22.4' E
B. LAT 27°07.5' S, LONG 71°18.6' E
C. LAT 27°09.2' S, LONG 71°11.3' E
D. LAT 27°11.0' S, LONG 71°14.5' E

ANS. D

1082 On 20 Nov. 1981, your 1030 ZT DR position is LAT 27°16.0' N, LONG 157°18.6' E. You are on course 060° T at a speed of 20 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 1200 running fix?

| BODY | ZONE TIME | GHA | OBSERVED ALTITUDE(Ho) | DECLINATION |
|---|---|---|---|---|
| Moon | 1030 | 259°24.4' | 34°01.5' | N 9°47.3' |
| Sun | 1116 | 202°30.5' | 43°00.0' | S 19°38.0' |
| Venus | 1200 | 162°57.7' | 24°26.9' | S 26°02.4' |

A. LAT 27°16.8' N, LONG 157°30.5' E
B. LAT 27°22.6' N, LONG 157°37.8' E
C. LAT 27°29.7' N, LONG 157°43.0' E
D. LAT 27°33.4' N, LONG 157°48.2' E

ANS. C

1083 On 21 Nov. 1981, your 1146 ZT DR position is LAT 26°05.0' N, LONG 90°02.0' W. You are on course 300° T at a speed of 20.0 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 1246 running fix?

| BODY | ZONE TIME | GHA | OBSERVED ALTITUDE(Ho) | DECLINATION |
|---|---|---|---|---|
| Sun L/L | 1146 | 90°02.0' | 43°50.5' | S 20°00.0' |
| Venus | 1216 | 46°53.6' | 23°16.3'' | S 25°49.1' |
| Moon L/L | 1246 | 154°30.6' | 23°56.1' | N 01°57.3' |

A. LAT 26°09.0' N, LONG 90°10.5' W
B. LAT 26°14.5' N, LONG 90°15.8' W
C. LAT 26°19.0' N, LONG 90°21.0' W
D. LAT 26°24.2' N, LONG 90°24.0' W

ANS. C

1084 On 4 Dec. 1981, your 1500 ZT DR position is LAT 18°06.0' N, LONG 75°42.0' W. You are on course 020° T at a speed of 15.0 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 1548 running fix?

| BODY | ZONE TIME | GHA | OBSERVED ALTITUDE(Ho) | DECLINATION |
|---|---|---|---|---|
| Venus | 1500 | 73°51.1' | 48°29.5' | S 23°22.1' |
| Sun L/L | 1524 | 128°25.7' | 24°24.9' | S 22°18.6' |
| Moon L/L | 1548 | 37°54.1' | 43°24.8' | S 9°43.0' |

A. LAT 18°10.3' N, LONG 75°34.5' W
B. LAT 18°12.6' N, LONG 75°42.0' W
C. LAT 18°14.0' N, LONG 75°40.0' W
D. LAT 18°17.3' N, LONG 75°37.7' W

ANS. D

1085 On 20 Feb. 1981, your vessel is enroute from Honolulu, HI, to San Francisco, CA. You are steering course 033° T and making a speed of 18 knots. Your 0530 zone time DR is LAT 24°15.0' N, LONG 137°33.0' W. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?

| STAR | ZONE TIME | BODY'S GHA | BODY'S DECLINATION | OBSERVED ALTITUDE(Ho) |
|---|---|---|---|---|
| Regulus | 0540 | 218°35.9' | N 12°03.5' | 13°02.2' |
| Antares | 0552 | 126°23.5' | S 26°23.3' | 38°04.1' |
| Vega | 0600 | 96°23.2' | N 38°45.8' | 52°33.5' |

A. LAT 24°24.3' N, LONG 137°35.5' W
B. LAT 24°26.0' N, LONG 137°25.8' W
C. LAT 24°27.5' N, LONG 137°31.8' W
D. LAT 24°30.1' N, LONG 137°24.5' W

ANS. C

1086 On 15 July 1981, your vessel is enroute from Portland, OR, to Singapore, Malaysia. You are steering course 243° T and making a speed of 16 knots. Your 1845 zone time DR is LAT 27°42.0' N, LONG 167°02.0' E. You observed 3 celestial bodies. Determine the latitude and longitude of your 1945 running fix?

| STAR | ZONE TIME | BODY'S GHA | BODY'S DECLINATION | OBSERVED ALTITUDE(Ho) |
|---|---|---|---|---|
| Deneb | 1905 | 104°08.0' | N 45°12.8' | 19°52.4' |
| Antares | 1924 | 172°02.1' | S 26°23.5' | 32°22.1' |
| Denebola | 1945 | 247°20.6' | N 14°40.7' | 38°22.3' |

A. LAT 27°31.1' N, LONG 166°43.0' E
B. LAT 27°38.5' N, LONG 166°45.1' E
C. LAT 27°45.3' N, LONG 166°32.2' E
D. LAT 28°18.1' N, LONG 166°39.8' E
ANS. A

1087 On 15 August 1981, your vessel is enroute from Bombay, India, to San Francisco, CA. You are steering course 020° T and making a speed of 20.0 knots. Your 1830 zone time DR is LAT 26°13.0' N, LONG 135°18.0' W. You observed 3 celestial bodies. Determine the latitude and longitude of your 1935 running fix?

| STAR | ZONE TIME | BODY'S GHA | BODY'S DECLINATION | OBSERVED ALTITUDE(Ho) |
|---|---|---|---|---|
| Spica | 1848 | 180°24.3' | S 11°03.8' | 32°21.4' |
| Altair | 1910 | 89°29.8' | N 8°49.3' | 43°06.3' |
| Kochab | 1935 | 170°33.4' | N 74°14.3' | 39°12.0' |

A. LAT 26°15.9' N, LONG 135°03.6' W
B. LAT 26°35.3' N, LONG 135°24.8' W
C. LAT 26°40.5' N, LONG 135°21.6' W
D. LAT 26°48.1' N, LONG 135°20.7' W

ANS. D

1088 On 9 June 1981, your 0000 DR position is LAT 26°14.0' S, LONG 176°38.1' E. You are on course 223° T, speed 17.8 knots. You observed 4 celestial bodies. Determine the latitude and longitude of your 0630 running fix?

| STAR | ZONE TIME | BODY'S GHA | BODY'S DECLINATION | OBSERVED ALTITUDE(Ho) |
|---|---|---|---|---|
| Achernar | 0612 | 139°47.5' | S 57°19.8' | 46°42.8' |
| Altair | 0620 | 228°34.3' | N 8°49.1' | 34°14.4' |
| KausAustralis | 0626 | 251°48.6' | S 34°23.6' | 33°25.5' |
| Fomalhaut | 0630 | 184°33.8' | S 29°43.2' | 87°58.7' |

A. LAT 27°44.7' S, LONG 174°57.1' E
B. LAT 27°46.2' S, LONG 175°03.0' E
C. LAT 27°41.2' S, LONG 175°01.2' E
D. LAT 27°38.5' S, LONG 175°06.3' E
ANS. A

1089 At 1830 zone time, on 6 April 1981, your DR position is LAT 26°33.0' N, LONG 64°31.0' W. You are steering course 082° T at a speed of 16.0 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 1900 running fix?

| STAR | ZONE TIME | STAR'S GHA | OBSERVED ALTITUDE(Ho) | STAR'S DECLINATION |
|---|---|---|---|---|
| Sirius | 1836 | 73°02.7' | 46°00.5' | S 16°41.7' |
| Regulus | 1842 | 23°46.9' | 49°07.2' | N 12°03.5' |
| Mirfak | 1900 | 129°24.3' | 35°50.5' | N 49°47.7' |

A. LAT 26°20.1' N, LONG 64°19.4' W
B. LAT 26°23.7' N, LONG 64°29.3' W
C. LAT 26°28.4' N, LONG 64°32.1' W
D. LAT 26°32.5' N, LONG 64°27.1' W

ANS. D

1090 At 0450 zone time, on 25 June 1981, your DR position is LAT 21°26.0' N, LONG 160°24.5' W. You are steering course 100° T at a speed of 10 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0514 running fix?

| STAR | ZONE TIME | STAR'S GHA | OBSERVED ALTITUDE(Ho) | STAR'S DECLINATION |
|---|---|---|---|---|
| Mirfak | 0450 | 100°25.9' | 35°27.4' | N 49°47.5' |
| Fomalhaut | 0502 | 169°59.9' | 38°01.3' | S 29°43.1' |
| Altair | 0514 | 219°39.9' | 31°39.5' | N 8°49.1' |

A. LAT 21°27.0' N, LONG 160°17.0' W
B. LAT 21°25.0' N, LONG 160°18.0' W
C. LAT 21°22.0' N, LONG 160°17.0' W
D. LAT 21°20.0' N, LONG 160°15.5' W

ANS. B

1091 On 10 August 1981, your 0430 ZT position is LAT 29°56.7' S, LONG 139°11.0' E. Your course is 321° T, speed 18.2 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0500 running fix?

| STAR | TIME | GHA | DECLINATION | OBSERVED ALTITUDE |
|---|---|---|---|---|
| Fomalhaut | 0452 | 272°03.3' | S 29°43.1' | 46°05.3' |
| Canopus | 0459 | 162°05.5' | S 52°41.0' | 41°48.9' |
| Achernar | 0510 | 236°28.2' | S 57°19.6' | 60°26.5' |

A. LAT 29°46.0' S, LONG 138°54.0' E
B. LAT 29°49.2' S, LONG 138°57.0' E
C. LAT 29°56.0' S, LONG 139°03.8' E
D. LAT 30°07.5' S, LONG 138°55.2' E

ANS. B

1092 On 3 April 1981, your vessel's 1400 ZT DR position is LAT 20°08.0' N, LONG 147°45.0' W. You are steering course 023° T at 18.0 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 1900 running fix?

| STAR | ZONE TIME | GHA | DECLINATION | OBSERVED ALTITUDE(Ho) |
|---|---|---|---|---|
| Capella | 1848 | 195°07.8' | N 45°58.8' | 44°10.2' |
| Sirius | 1903 | 167°06.2' | S 16°41.7' | 46°52.9' |
| Aldebaran | 1912 | 201°44.0' | N 16°28.2' | 38°17.9' |

A. LAT 21°39.8' N, LONG 146°59.7' W
B. LAT 21°40.0' N, LONG 147°03.2' W
C. LAT 21°41.8' N, LONG 147°05.5' W
D. LAT 21°41.8' N, LONG 147°01.5' W

ANS. B

1093 On 22 Nov. 1981, your vessel is enroute from Accra, Ghana, to Montevideo, Uruguay. You are on course 240° T and making a speed of 15.0 knots. Your 1129 DR position is LAT 28°25.0' S, LONG 42°40.0' W. You observed 3 celestial bodies. Determine the latitude and longitude of your 1137 running fix?

| BODY | ZONE TIME | BODY'S GHA | DECLINATION | OBSERVED ALTITUDE(Ho) |
|---|---|---|---|---|
| Venus | 1129 | 350°00.1' | S 25°41.8' | 43°26.8' |
| Moon | 1134 | 082°54.7' | S 01°46.5' | 43°15.0' |
| Sun | 1137 | 042°38.0' | S 20°11.7' | 81°44.7' |

A. LAT 28°27.0' S, LONG 42°38.0' W
B. LAT 28°25.2' S, LONG 42°40.0' W
C. LAT 28°25.0' S, LONG 42°36.0' W
D. LAT 28°23.4' S, LONG 42°42.0' W

ANS. A

1094 On 12 Oct. 1981, your vessel is on course 081° T, speed 20 knots. Your 1800 zone time DR position is LAT 26°11.0' S, LONG 77°18.0' E. You observed 3 celestial bodies. Determine the latitude and longitude of your 1835 running fix?

| STAR | ZONE TIME | BODY'S GHA | BODY'S DECLINATION | OBSERVED ALTITUDE(Ho) |
|---|---|---|---|---|
| Vega | 1810 | 299°26.6' | N 38°46.3' | 23°08.7' |
| Fomalhaut | 1823 | 237°37.0' | S 29°43.2' | 50°23.9' |
| Antares | 1835 | 337°43.4' | S 26°23.4' | 40°53.1' |

A. LAT 26°05.5' S, LONG 77°14.5' E
B. LAT 26°07.5' S, LONG 77°34.0' E
C. LAT 26°09.0' S, LONG 77°27.5' E
D. LAT 26°12.0' S, LONG 77°31.0' E
ANS. D

1095 On 25 Oct. 1981, your 0430 ZT DR position is LAT 24°48.O' N, LONG 65°21.1' W. Your vessel is on course 030° T at a speed of 18 knots. You observed 3celestial bodies. Determine the latitude and longitude of your 0455 running fix?

| STAR | ZONE TIME | BODY'S GHA | BODY'S DECLINATION | OBSERVED ALTITUDE(Ho) |
|---|---|---|---|---|
| Mirfak | 0430 | 110°23.1' | N 49°47.7' | 47°20.8' |
| Regulus | 0440 | 011°48.3' | N 12°03.5' | 37°49.9' |
| Sirius | 0455 | 066°19.5' | S 16°41.3' | 48°25.3' |

A. LAT 24°53.0' N, LONG 65°28.3' W
B. LAT 24°53.0' N, LONG 65°12.5' W
C. LAT 24°54.0' N, LONG 65°17.3' W
D. LAT 25°03.0' N, LONG 65°18.5' W

ANS. A

1096 On 24 October 1981, your 0100 DR position is LAT 27°42' N, LONG 158°35' E. You are on course 085° T at a speed of 12 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0700 running fix?

| BODY | ZONE TIME | GHA | OBSERVED ALTITUDE(Ho) | DECLINATION |
|---|---|---|---|---|
| Rigel | 0558 | 238°11.2' | 38°39.5' | S 08°13.2' |
| Capella | 0600 | 238°16.1' | 55°15.1' | N 45°58.7' |
| Denebola | 0604 | 141°05.0' | 33°39.8' | N 14°40.6' |

A. LAT 27°48.8' N, LONG 160°12.5' E
B. LAT 27°52.5' N, LONG 160°18.2' E
C. LAT 27°56.0' N, LONG 159°47.3' E
D. LAT 27°58.4' N, LONG 159°43.5' E

ANS. C

1097 On 9 November 1981, your 0400 DR position is LAT 18°24.0' S, LONG 97°36.0' W. You are on course 138° T at a speed of 16 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?

| BODY | ZONE TIME | GHA | OBSERVED ALTITUDE(Ho) | DECLINATION |
|---|---|---|---|---|
| Canopus | 0510 | 120°08.7' | 51°31.4' | S 52°40.9' |
| Aldebaran | 0512 | 147°49.1' | 29°07.8' | N 16°28.4' |
| Regulus | 0514 | 065°11.7' | 45°57.5' | N 12°03.5' |

A. LAT 18°15.0' S, LONG 98°52.5' W
B. LAT 18°45.0' S, LONG 97°06.8' W
C. LAT 18°52.5' S, LONG 97°10.6' W
D. LAT 19°15.5' S, LONG 98°08.8' W

ANS. B

1098 On 19 September 1981, your 0300 zone time DR position is LAT 24°35' N, LONG 88°40' W. You are on course 288° T at a speed of 14 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?

| BODY | ZONE TIME | GHA | OBSERVED ALTITUDE(Ho) | DECLINATION |
|---|---|---|---|---|
| Regulus | 0530 | 018°56.5' | 22°45.2' | N 12°03.6' |
| Sirius | 0532 | 070°12.2' | 44°30.6' | S 16°41.3' |
| Hamal | 0536 | 140°44.1' | 43°16.5' | N 23°22.5' |

A. LAT 24°47.4' N, LONG 89°15.0' W
B. LAT 24°52.5' N, LONG 89°22.4' W
C. LAT 24°59.5' N, LONG 89°28.6' W
D. LAT 25°06.0' N, LONG 90°37.0' W

ANS. B

1099 On 6 April 1981, your 0300 DR position is LAT 27°42' S, LONG 128°58' W. You are on course 097° T at a speed of 18 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?

| BODY | ZONE TIME | GHA | OBSERVED ALTITUDE(Ho) | DECLINATION |
|---|---|---|---|---|
| Fomalhaut | 0530 | 203°08.6' | 25°17.5' | S 29°43.4' |
| Rigil Kent. | 0536 | 194°12.4' | 35°26.6' | S 60°45.3' |
| Vega | 0540 | 135°43.2' | 23°06.8' | N 38°45.7' |

A. LAT 27°15.5' S, LONG 128°12.4' W
B. LAT 27°44.7' S, LONG 127°47.5' W
C. LAT 27°52.4' S, LONG 127°49.4' W
D. LAT 28°15.2' S, LONG 128°11.6' W

ANS. B

1101 On 21 Dec. 1981, your 0300 DR position is LAT 21°24.0' N, LONG 65°15.0' W. You are on course 122° T at a speed of 18 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0700 running fix?

| BODY | ZONE TIME | GHA | OBSERVED ALTITUDE(Ho) | DECLINATION |
|---|---|---|---|---|
| Antares | 0625 | 359°05.3' | 11°17.1' | S 26°23.4' |
| Pollux | 0628 | 130°51.1' | 29°35.4' | N 28°04.2' |
| Vega | 0630 | 328°20.1' | 08°18.7' | N 38°46.1' |

A. LAT 20°28.9' N, LONG 64°07.9' W
B. LAT 20°54.6' N, LONG 65°51.5' W
C. LAT 21°12.0' N, LONG 64°51.0' W
D. LAT 21°47.5' N, LONG 65°10.6' W

ANS. A

1102 On 19 November 1981, your 0200 zone time DR position is LAT 18°41' N, LONG 150°37' E. You are on course 014° T at a speed of 18 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?

| BODY | ZONE TIME | GHA | OBSERVED ALTITUDE(Ho) | DECLINATION |
|---|---|---|---|---|
| Arcturus | 0532 | 137°03.2' | 22°34.9' | N 19°16.7' |
| Suhail | 0537 | 215°10.4' | 26°45.6' | S 43°21.2' |
| Capella | 0538 | 273°25.1' | 31°43.5' | N 45°58.7' |

A. LAT 19°45.4' N, LONG 150°52.6' E
B. LAT 19°42.8' N, LONG 150°56.9' E
C. LAT 19°41.2' N, LONG 150°46.3' E
D. LAT 19°39.3' N, LONG 150°51.8' E

ANS. A

1103 On 25 August 1981, your 0300 zone time DR position is LAT 21°28.0' N, LONG 167°48.0 E. You are on course 248° T at a speed of 12 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?

| BODY | ZONE TIME | GHA | OBSERVED ALTITUDE(Ho) | DECLINATION |
|---|---|---|---|---|
| Rigel | 0512 | 167°31.4' | 51°37.7' | S 8°13.2' |
| Diphda | 0518 | 236°46.1' | 31°52.1' | S 18°05.2' |
| Acamar | 0524 | 204°33.0' | 27°40.9' | S 40°22.5' |

A. LAT 20°52.4' N, LONG 167°32.1' E
B. LAT 20°57.1' N, LONG 167°01.0' E
C. LAT 20°59.5' N, LONG 166°54.8' E
D. LAT 21°06.0' N, LONG 167°10.9' E

ANS. B

1104 On 19 November 1981, your 0200 zone time DR position is LAT 20°29.0' N, LONG 150°21.3' E. You are on course 136° T at a speed of 18 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?

| BODY | ZONE TIME | GHA | OBSERVED ALTITUDE(Ho) | DECLINATION |
|---|---|---|---|---|
| Regulus | 0530 | 198°24.3' | 77°21.3' | N 12°03.4' |
| Arcturus | 0532 | 137°03.2' | 22°47.9' | N 19°16.7' |
| Suhail | 0537 | 215°10.4' | 26°44.9' | S 43°21.2' |

A. LAT 19°30.1' N, LONG 151°06.0' E
B. LAT 19°31.7' N, LONG 151°04.9' E
C. LAT 19°33.0' N, LONG 151°10.0' E
D. LAT 19°35.8' N, LONG 151°13.6' E
ANS. C

1105 On 28 May 1981, your 0200 DR position is LAT 19°16.5' S , LONG 119°24.0' W. You are on course 107° T at a speed of 18 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?

| BODY | ZONE TIME | GHA | OBSERVED ALTITUDE(Ho) | DECLINATION |
|---|---|---|---|---|
| Diphda | 0524 | 076°20.5' | 50°34.8' | S 18°05.4' |
| Antares | 0530 | 201°26.0' | 14°16.9' | S 26°23.4' |
| Deneb | 0538 | 140°18.4' | 22°00.3' | N 45°12.6' |

A. LAT 19°43.0' S, LONG 117°54.0' W
B. LAT 19°48.2' S, LONG 118°04.5' W
C. LAT 20°07.5' S, LONG 117°32.0' W
D. LAT 20°17.1' S, LONG 118°06.0' W

ANS. A

1106 On 23 January 1981, your 0200 DR position is LAT 18°32.5' N, LONG 135°14.0' E. You are on course 064° T at a speed of 15 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?

| BODY | ZONE TIME | GHA | OBSERVED ALTITUDE(Ho) | DECLINATION |
|---|---|---|---|---|
| Vega | 0538 | 152°32.3' | 26°05.5' | N 38°45.9' |
| Regulus | 0542 | 280°45.8' | 35°05.8' | N 12°03.5' |
| Hadar | 0546 | 222°59.5' | 10°32.1' | S 60°16.6' |

A. LAT 18°58.5' N, LONG 136°10.1' E
B. LAT 19°08.4' N, LONG 136°06.5' E
C. LAT 19°14.0' N, LONG 136°04.8' E
D. LAT 19°45.5' N, LONG 137°50.5' E

ANS. C

1107 On 16 April 1981, your 0200 zone time DR position is LAT 17°18' S, LONG 168°46' E. You are on course 236° T at a speed of 16 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?

| BODY | ZONE TIME | GHA | OBSERVED ALTITUDE(Ho) | DECLINATION |
|---|---|---|---|---|
| Fomalhaut | 0523 | 133°27.1' | 35°40.4' | S 29°43.4' |
| Peacock | 0527 | 172°33.9' | 48°28.6' | S 56°47.6' |
| Antares | 0531 | 232°32.3' | 51°43.9' | S 26°23.4' |

A. LAT 17°54.9' S, LONG 167°48.7' E
B. LAT 17°55.6' S, LONG 167°45.1' E
C. LAT 17°56.8' S, LONG 167°52.4' E
D. LAT 18°00.4' S, LONG 167°49.2' E

ANS. D

1108 On 19 January 1981, your 0300 zone time DR position is LAT 22°13' N, LONG 40°19' W. You are on course 297° T at a speed of 17 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0545 running fix?

| BODY | ZONE TIME | GHA | OBSERVED ALTITUDE(Ho) | DECLINATION |
|---|---|---|---|---|
| Vega | 0533 | 327°50.1' | 27°24.7' | N 38°45.9' |
| Spica | 0543 | 48°21.6' | 54°51.6' | S 11°03.7' |
| Dubhe | 0552 | 86°01.1' | 41°08.9' | N 61°51.0' |

A. LAT 22°28.5' N, LONG 41°03.0' W
B. LAT 22°30.3' N, LONG 41°00.2' W
C. LAT 22°31.1' N, LONG 42°58.6' W
D. LAT 22°33.0' N, LONG 42°55.9' W

ANS. A

1109 On 5 May 1981, your 1600 zone time DR position is LAT 17°28' S, LONG 143°39' E. You are on course 316° T at a speed of 17 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 1800 running fix?

| BODY | ZONE TIME | GHA | OBSERVED ALTITUDE(Ho) | DECLINATION |
|---|---|---|---|---|
| Avoir | 1727 | 209°18.2' | 47°24.4' | S 59°27.3' |
| Regulus | 1732 | 184°14.7' | 46°35.2' | N 12°03.6' |
| Betelgeuse | 1738 | 249°03.6' | 49°41.5' | N 7°24.1' |

A. LAT 17°05.2' S, LONG 143°11.4' E
B. LAT 17°07.8' S, LONG 143°17.5' E
C. LAT 17°08.2' S, LONG 143°07.9' E
D. LAT 17°09.7' S, LONG 143°10.1' E

ANS. A

1110 On 19 November 1981, your 0300 zone time DR position is LAT 19°23' N, LONG 151°37' E. You are on course 293° T at a speed of 17 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?

| BODY | ZONE TIME | GHA | OBSERVED ALTITUDE(Ho) | DECLINATION |
|---|---|---|---|---|
| Mars | 0525 | 180°59.9' | 60°05.5' | N 07°05.2' |
| Arcturus | 0532 | 137°03.2' | 22°39.0' | N 19°16.7' |
| Suhail | 0537 | 215°10.4' | 26°51.3' | S 43°21.2' |

A. LAT 19°38.5' N, LONG 150°41.6' E
B. LAT 19°34.8' N, LONG 150°48.0' E
C. LAT 19°32.9' N, LONG 150°52.3' E
D. LAT 19°30.5' N, LONG 150°48.5' E
ANS. B

1111 On 19 November 1981, your 1914 zone time DR position is LAT 30°12' S, LONG 12°15' E. You are on course 135° T at a speed of 15 knots. You observed 3 celestial bodies. Determine the latitude and longitude of your 0600 running fix?

| BODY | ZONE TIME | GHA | OBSERVED ALTITUDE(Ho) | DECLINATION |
|---|---|---|---|---|
| Mars | 0525 | 180°59.9' | 60°05.5' | N 07°05.2' |
| Arcturus | 0532 | 137°03.2' | 22°39.0' | N 19°16.7' |
| Suhail | 0537 | 215°10.4' | 26°51.3' | S 43°21.2' |

A. LAT 19°38.5' N, LONG 150°41.6' E
B. LAT 19°34.8' N, LONG 150°48.0' E
C. LAT 19°32.9' N, LONG 150°52.3' E
D. LAT 19°30.5' N, LONG 150@48.5' E

ANS. B

1517 A plotting sheet should be used to plot the radiobeacons and solve the following problem.
On a voyage along the east coast of South America your 0723 DR position is LAT 29°28' S, LONG 48°17' W. You are on course 324° T; speed 16 knots. At 0723 you take RDF bearings. The gyro error is 2° W. What is your position based on these bearings?

| STATION | TRAMANDAI | CABO DE SANTA MARTA GRANDE |
|---|---|---|
| LAT | 30°00.6' S | 28°36.2' S |
| LONG | 50°08.2' W | 48°48.9' W |
| RDF GYRO BEARING | 255.5° | 336.1° |

CALIBRATION TABLE

| RELATIVE BEARING | –CORRECTION | RELATIVE BEARING | -CORRECTION |
|---|---|---|---|
| 000° | -4.0° | 180° | +0.5° |
| 045° | -2.5° | 225° | +3.5° |
| 090° | -0.5° | 270° | +1.0° |
| 135° | 0.0° | 315° | -2.0° |

A. LAT 29°31.0' S, LONG 48°13.6' W
B. LAT 29°31.9' S, LONG 48°20.8' W
C. LAT 29°33.3' S, LONG 48°17.9' W
D. LAT 29°36.7' S, LONG 48°12.1' W

ANS. A

2501 A plotting sheet should be used to plot the radiobeacons and solve the following problem.
On a voyage along the east coast of South America your 1200 DR position is LAT 30°00.0' S, LONG 48°24.0' W. You are on a course of 044° T; speed 11.0 knots. The gyro error is 2° W. Determine your 1300 position from the RDF bearings taken at that time.

| STATION | TRAMANDAI | CABO DE SANTA MARTA GRANDE |
|---|---|---|
| LAT | 30°00.6' S | 28°36.2' S |
| LONG | 50°08.2' W | 48°48.9' W |
| RDF GYRO BEARING | 263.5° | 338.4° |

**CALIBRATION TABLE**

| RELATIVE BEARING | -CORRECTION | RELATIVE BEARING | -CORRECTION |
|---|---|---|---|
| 000° | -2.5° | 180° | +1.0° |
| 045° | -1.0° | 225° | +2.0° |
| 090° | 0.0° | 270° | 0.0° |
| 135° | +0.5° | 315° | -1.0° |

A. LAT 29°49.0' S, LONG 48°10.0' W
B. LAT 29°51.2' S, LONG 48°15.2' W
C. LAT 29°53.8' S, LONG 48°10.2' W
D. LAT 29°55.1' S, LONG 48°13.1' W

ANS. A

2502 A plotting sheet should be used to plot the radiobeacons and solve the following problem.
On a voyage along the east coast of South America, your 0800 DR position is LAT 26°30.0' S, LONG 46°36.8' W. You are on course 209° T; speed 14.0 knots. The gyro error is 1° W. Determine your 0900 position from the RDF bearings taken at that time.

| STATION | ILHA MOELA | PARANAGUA | CABO DE SANTA MARTA GRANDE |
|---|---|---|---|
| LAT | 24°03.0' | S 25°30.0' | S 28°36.2' S |
| LONG | 46°16.0' | W 48°19.0' | W 48°48.9' W |
| RDF GYRO BEARING | 012.4° | 310.2° | 223.5° |

**CALIBRATION TABLE**

| RELATIVE BEARING | -CORRECTION | RELATIVE BEARING | -CORRECTION |
|---|---|---|---|
| 000° | +1.0° | 180° | -4.0° |
| 045° | +4.0° | 225° | -1.5° |
| 090° | +1.0° | 270° | 0.0° |
| 135° | -2.0° | 315° | +0.5° |

A. LAT 26°38.7' S, LONG 46°42.0' W
B. LAT 26°42.5' S, LONG 46°36.4' W
C. LAT 26°43.0' S, LONG 46°47.0' W
D. LAT 26°43.9' S, LONG 46°42.5' W

ANS. D

2503 A plotting sheet should be used to plot the radiobeacons and solve the following problem.
On a voyage from Dakar to the Mediterranean, your 1410 DR position is LAT 26°30.0' N, LONG 15°50.0' W. You take 3 RDF bearings at that time. The vessel's heading was 055° pgc. Gyro error is 2° W. Determine your 1410 position from the bearings taken at that time.

| STATION | LAS PALMAS | PUNTA LANTAILLA | EL AAIUN |
|---|---|---|---|
| LAT | 27°58.0' N | 28°13.7' N | 27°10.0' N |
| LONG | 15°24.0' W | 13°56.8' W | 13°13.0' W |
| RDF GYRO BEARING | 014.0° | 043.3° | 074.4° |

**CALIBRATION TABLE**

| RELATIVE BEARING | -CORRECTION | RELATIVE BEARING | -CORRECTION |
|---|---|---|---|
| 000° | +3° | 180° | -3° |
| 045° | +1° | 225° | -1° |
| 090° | -1° | 270° | 0° |
| 135° | -3° | 315° | +1° |

A. LAT 26°43.5' N, LONG 15°48.0' W
B. LAT 26°38.4' N, LONG 15°37.2' W
C. LAT 26°33.5' N, LONG 15°45.4' W
D. LAT 26°26.3' N, LONG 15°47.6' W

ANS. C

2504 A plotting sheet should be used to solve the following problem.
On a voyage from Capetown to Paranagua, Brazil, your 1114 zone time DR position is LAT 26°04.0' S, LONG 46°42.0' W. You take two RDF bearings. The helmsman was on course 293° pgc at the time of the bearings. The gyro error is 3° W. Determine your position from the bearings taken at that time.

| STATION | PARANAGUA | ILHA MOELA |
|---|---|---|
| LAT | 25°30.0' S | 24°03.0' S |
| LONG | 48°19.0' W | 46°16.0' W |
| RDF GYRO BEARING | 297.6° | 016.0° |

**CALIBRATION TABLE**

| RELATIVE BEARING | -CORRECTION | RELATIVE BEARING | -CORRECTION |
|---|---|---|---|
| 000° | -3° | 180° | +2° |
| 045° | -2° | 225° | 0° |
| 090° | +1° | 270° | -1° |
| 135° | +2° | 315° | -2° |

A. LAT 26°02.8' S, LONG 46°48.0' W
B. LAT 26°07.0' S, LONG 46°41.8' W
C. LAT 26°09.5' S, LONG 46°48.3' W
D. LAT 26°08.3' S, LONG 46°40.3' W

ANS. A

2505 Station positions may be plotted on the appropriate plotting sheet.
Your 1420 ZT DR position is LAT 27°46.0' S, LONG 46°12.0' W when you take RDF bearings. The helmsman was on course 221° T at the time of the bearings. There is no gyro error. What is your 1420 position based on these bearings?

| STATION | ILHA MOELA | PARANAGUA | CABO DE SANTA MARTA GRANDE |
|---|---|---|---|
| LAT | 24°03.0' S | 25°30.0' S | 28°36.2' S |
| LONG | 46°16.0' W | 48°19.0' W | 48°48.9' W |
| RDF GYRO BEARING | 359.1° | 316.1° | 240.8° |

**RDF CALIBRATION TABLE**

| RELATIVE BEARING | –CORRECTION | RELATIVE BEARING | -CORRECTION |
|---|---|---|---|
| 000° | - 1° | 180° | + 1° |
| 045° | 0° | 225° | 0° |
| 090° | + 1° | 270° | - 1° |
| 135° | + 3° | 315° | - 3° |

A. LAT 27°20.4' S, LONG 46°13.2' W
B. LAT 27°23.8' S, LONG 46°23.7' W
C. LAT 27°24.2' S, LONG 46°33.6' W
D. LAT 27°28.0' S, LONG 46°19.7' W

ANS. B

2506 A plotting sheet should be used to plot the radiobeacons and solve the following problem.
On a voyage along the west coast of Africa, your 1430 DR position is LAT 28°37.5' N, LONG 11°40.0' W. You are on course 249° T; speed 19.8 knots. The gyro error is 2° E. At 1500 you take RDF bearings. Determine your 1500 position based on the radio bearings.

| STATION | EL AAIUN | PUNTA LANTAILLA | ARRECIFE |
|---|---|---|---|
| LAT | 27°10.0' N | 28°13.8' N | 28°56.9' N |
| LONG | 13°13.0' W | 13°56.8' W | 13°37.0' W |
| RDF GYRO BEARING | 220.9° | 258.0' | 280.9° |

**CALIBRATION TABLE**

| RELATIVE BEARING | -CORRECTION | RELATIVE BEARING | -CORRECTION |
|---|---|---|---|
| 000° | - 1.0° | 180° | 0.0° |
| 045° | + 2.0° | 225° | - 1.5° |
| 090° | + 4.0° | 270° | - 4.0° |
| 135° | + 2.5° | 315° | - 4.0° |

A. LAT 28°33.1' N, LONG 12°01.0' W
B. LAT 28°34.0' N, LONG 11°53.5' W
C. LAT 28°36.0' N, LONG 11°50.6' W
D. LAT 28°36.3' N, LONG 11°58.8' W

ANS. B

2507 A plotting sheet should be used to plot the radiobeacons and solve the following problem.
On a voyage enroute to the Canary Islands, your 2300 DR position is LAT 29°30' N, LONG 14°50' W. You are on course 122° T; speed 14.6 knots. The gyro error is 1° W. You take RDF bearings at the times indicated. Determine your 2400 position based on the radio bearings.

| STATION | LA ISLETA | ARRECIFE | REINA SOPHIA |
|---|---|---|---|
| LAT | 28°10.2' N | 28°56.9' N | 28°02.2' N |
| LONG | 15°25.0' W | 13°37.0' W | 16°34.0' W |
| RDF GYRO BEARING | 200.8° | 113.5° | 230.0° |
| TIME | 2321 | 2335 | 2351 |

**CALIBRATION TABLE**

| RELATIVE BEARING | -CORRECTION | RELATIVE BEARING | -CORRECTION |
|---|---|---|---|
| 000° | + 2.0° | 180° | - 0.5° |
| 045° | + 3.0° | 225° | - 1.0° |
| 090° | + 1.5° | 270° | - 2.5° |
| 135° | + 0.0° | 315° | - 1.0° |

A. LAT 29°19.5' N, LONG 14°34.6' W
B. LAT 29°24.4' N, LONG 14°37.2' W
C. LAT 29°26.6' N, LONG 14°40.9' W
D. LAT 29°22.3' N, LONG 14°42.1' W

ANS. D

2508 A plotting sheet should be used to plot the radiobeacons and solve the following problem.
On a voyage along the west coast of Africa, your 1100 DR position is LAT 27°00' N, LONG 15°15' W. You are on course 062° T; speed 15.8 knots. The gyro error is 2° W.
Determine your position from the RDF bearings taken at 1200.

| STATION | LAS PALMAS | PUNTA LANTAILLA | EL AAIUN |
|---|---|---|---|
| LAT | 27°58.0' N | 28°13.8' N | 27°10.0' N |
| LONG | 15°24.0' W | 13°56.8' W | 13°13.0' W |
| RDF GYRO BEARING | 341.1° | 046.3° | 091.6° |

**CALIBRATION TABLE**

| RELATIVE BEARING | -CORRECTION | RELATIVE BEARING | -CORRECTION |
|---|---|---|---|
| 000° | - 2.0° | 180° | + 1.0° |
| 045° | + 1.0° | 225° | - 0.5° |
| 090° | + 2.5° | 270° | - 2.0° |
| 135° | + 3.0° | 315° | - 3.0° |

A. LAT 27°05.5' N, LONG 14°58.2' W
B. LAT 27°07.8' N, LONG 14°56.0' W
C. LAT 27°10.0' N, LONG 15°01.0' W
D. LAT 27°12.2' N, LONG 15°05.3' W

ANS. C

2509 On a voyage from Cadiz, Spain to Capetown, your 0958 DR position is LAT 28°50' N, LONG 15°18' W, when you take 3 RDF bearings. At the time of the bearings, your vessel was heading 223° per gyrocompass. Your gyro error is 3° E. Determine your position based on these bearings.

| STATION | PUNTA LANTAILLA | ARRECIFE | LA ISLETA |
|---|---|---|---|
| LAT | 28°13.8' N | 28°57.0' N | 28°10.4' N |
| LONG | 13°56.8' W | 13°37.0' W | 15°25.0' W |
| RDF GYRO BEARING | 112.1° | 081.9° | 182.0° |

**CALIBRATION TABLE**

| RELATIVE BEARING | -CORRECTION | RELATIVE BEARING | -CORRECTION |
|---|---|---|---|
| 000° | 0° | 180° | - 1° |
| 045° | - 1° | 225° | 0° |
| 090° | - 3° | 270° | + 1° |
| 135° | - 2° | 315° | + 1° |

A. LAT 28°53.5' N, LONG 15°16.0' W
B. LAT 28°49.2' N, LONG 15°20.8' W
C. LAT 28°46.2' N, LONG 15°14.9' W
D. LAT 28°46.4' N, LONG 15°27.6' W

ANS. B

2510 A radiobeacon bears 205° relative. The vessel's heading is 138° per gyrocompass. Gyro error is 1° W. The RDF calibration curve is shown. What is the true bearing of the radiobeacon?

**CALIBRATION TABLE**

| RELATIVE BEARING | -CORRECTION | RELATIVE BEARING | -CORRECTION |
|---|---|---|---|
| 000° | +2° | 180° | -2° |
| 045° | +1° | 225° | +1° |
| 090° | -1° | 270° | +4° |
| 135° | -1° | 315° | +3° |

A. 133°
B. 204°
C. 206°
D. 342°

ANS. D

2511 A plotting sheet should be used to plot the radiobeacons and solve the following problem.
On a voyage along the west coast of Africa your 1615 DR position is LAT 29°06' N, LONG 15°22' W. You are on course 148° T; speed 13.5 knots. At 1615 you take RDF bearings. The gyro error is 1° W. What is your position based on these bearings?

| STATION | PUNTA LANTAILLA | REINA SOPHIA |
|---|---|---|
| LAT | 28°13.8' N | 28°02.2' N |
| LONG | 13°56.8' W | 16°34.0' W |
| RDF GYRO BEARING | 129.6° | 225.4° |

**CALIBRATION TABLE**

| RELATIVE BEARING | -CORRECTION | RELATIVE BEARING | -CORRECTION |
|---|---|---|---|
| 000° | -2.0° | 180° | +1.0° |
| 045° | -1.0° | 225° | -0.5° |
| 090° | +2.0° | 270° | -1.5° |
| 135° | +2.5° | 315° | -2.5° |

A. LAT 29°05.1' N, LONG 15°18.6' W
B. LAT 29°07.8' N, LONG 15°19.2' W
C. LAT 29°10.3' N, LONG 15°26.2' W
D. LAT 29°12.8' N, LONG 15°14.9' W

ANS. B

2512 A plotting sheet should be used to plot the radiobeacons and solve the following problem.
On a voyage along the west coast of Africa your 1615 DR position is LAT 29°06' N, LONG 15°22' W. You are on course 148° T; speed 13.5 knots. At 1615 you take RDF bearings. The gyro error is 1° W. What is your position based on these bearings?

| STATION | PUNTA LANTAILLA | REINA SOPHIA |
|---|---|---|
| LAT | 28°13.8' N | 28°02.2' N |
| LONG | 13°56.8' W | 16°34.0' W |
| RDF GYRO BEARING | 126.6° | 228.2° |

**CALIBRATION TABLE**

| RELATIVE BEARING | -CORRECTION | RELATIVE BEARING | -CORRECTION |
|---|---|---|---|
| 000° | -2.0° | 180° | +1.0° |
| 045° | -1.0° | 225° | -0.5° |
| 090° | +2.0° | 270° | -1.5° |
| 135° | +2.5° | 315° | -2.5° |

A. LAT 28°55.0' N, LONG 15°10.0' W
B. LAT 29°01.8' N, LONG 15°18.2' W
C. LAT 29°10.3' N, LONG 15°26.2' W
D. LAT 29°12.8' N, LONG 15°14.9' W

ANS. B

2513 A plotting sheet should be used to plot the radiobeacons and solve the following problem.
On a voyage along the west coast of Africa your 0930 DR position is LAT 26°58' N, LONG 14°37' W. You are on course 223° T; speed 18.5 knots. At 0930 you take RDF bearings. The gyro error is 1° E. What is your position based on these bearings?

| **STATION** | **LAS PALMAS** | **EL AAIUN** |
|---|---|---|
| LAT | 27°58.0' N | 27°10.0' N |
| LONG | 15°24.0' W | 13°13.0' W |
| RDF GYRO BEARING | 320.7° | 075.2° |

**CALIBRATION TABLE**

| **RELATIVE BEARING** | **-CORRECTION** | **RELATIVE BEARING** | **-CORRECTION** |
|---|---|---|---|
| 000° | -4.0° | 180° | +2.5° |
| 045° | -0.5° | 225° | +1.0° |
| 090° | +1.5° | 270° | -0.5° |
| 135° | +2.0° | 315° | -2.5° |

A. LAT 27°01.3' N, LONG 14°30.9' W
B. LAT 26°59.9' N, LONG 14°37.7' W
C. LAT 26°54.8' N, LONG 14°31.2' W
D. LAT 26°50.6' N, LONG 14°27.6' W

ANS. C

2514 A plotting sheet should be used to plot the radiobeacons and solve the following problem.
On a voyage along the west coast of Africa your 1351 DR position is LAT 27°14' N, LONG 15°52' W. You are on course 082° T; speed 13.7 knots. At 1351 you take RDF bearings. The gyro error is 2° E. What is your position based on these bearings?

| **STATION** | **REINA SOPHIA** | **EL AAIUN** |
|---|---|---|
| LAT | 28°02.2' N | 27°10.0' N |
| LONG | 16°34.0' W | 13°13.0' W |
| RDF GYRO BEARING | 322.0° | 087.9° |

**CALIBRATION TABLE**

| **RELATIVE BEARING** | **-CORRECTION** | **RELATIVE BEARING** | **-CORRECTION** |
|---|---|---|---|
| 000° | 0.0° | 180° | -0.5° |
| 045° | +2.0° | 225° | -2.0° |
| 090° | +3.5° | 270° | -1.5° |
| 135° | +1.5° | 315° | -1.0° |

A. LAT 27°03.9' N, LONG 16°00.2' W
B. LAT 27°06.1' N, LONG 15°57.6' W
C. LAT 27°09.2' N, LONG 15°54.8' W
D. LAT 27°12.5' N, LONG 15°50.3' W

ANS. D

2515 A plotting sheet should be used to plot the radiobeacons and solve the following problem.
On a voyage along the east coast of South America your 0708 DR position is LAT 25°29.0' S, LONG 46°15.0' W. You are on course 256° T; speed 22 knots. At 0708 you take RDF bearings. The gyro error is 1° W. What is your position based on these bearings?

| STATION | ILHA MOELA | PARANAGUA |
|---|---|---|
| LAT | 24°03.0' S | 25°30.0' S |
| LONG | 46°16.0' W | 48°16.0' W |
| RDF GYRO BEARING | 003.5° | 270.4° |

**CALIBRATION TABLE**

| RELATIVE BEARING | -CORRECTION | RELATIVE BEARING | -CORRECTION |
|---|---|---|---|
| 000° | +3.0° | 180° | -4.0° |
| 045° | 0.0° | 225° | -0.5° |
| 090° | -1.0° | 270° | 0.0° |
| 135° | -2.5° | 315° | +1.5° |

A. LAT 25°24.6' S, LONG 46°27.2' W
B. LAT 25°27.1' S, LONG 46°22.8' W
C. LAT 25°29.1' S, LONG 46°15.6' W
D. LAT 25°32.4' S, LONG 46°17.8' W

ANS. D

2516 A plotting sheet should be used to plot the radiobeacons and solve the following problem.
On a voyage along the east coast of South America your 1419 DR position is LAT 29°38' S, LONG 47°53' W. You are on course 017° T; speed 14 knots. At 1419 you take RDF bearings. The gyro error is 1° E. What is your position based on these bearings?

**CABO DE SANTA**

| STATION | TRAMANDAI | MARTA GRANDE |
|---|---|---|
| LAT | 30°00.6' S | 28°36.2' S |
| LONG | 50°08.2' W | 48°48.9' W |
| RDF GYRO BEARING | 255.6° | 317.7° |

**CALIBRATION TABLE**

| RELATIVE BEARING | -CORRECTION | RELATIVE BEARING | -CORRECTION |
|---|---|---|---|
| 000° | +1.5° | 180° | -1.5° |
| 045° | +0.5° | 225° | 0.0° |
| 090° | -0.5° | 270° | +3.0° |
| 135° | -3.0° | 315° | +2.5° |

A. LAT 29°37.8' S, LONG 47°58.1' W
B. LAT 29°36.1' S, LONG 47°55.1' W
C. LAT 29°30.1' S, LONG 47°49.6' W
D. LAT 29°27.8' S, LONG 47°54.3' W

ANS. B

2518 A plotting sheet should be used to plot the radiobeacons and solve the following problem.
On a voyage along the east coast of South America your 0927 DR position is LAT 25°20' S, LONG 46°40' W. You are on course 217° T; speed 18 knots. At 0940 you take RDF bearings. The gyro error is 2° E. What is your position based on these bearings?

| STATION | ILHA MOELA | PARANAGUA |
|---|---|---|
| LAT | 24°03.0' S | 25°30.0' S |
| LONG | 46°16.0' W | 48°19.0' W |
| RDF GYRO BEARING | 013.6° | 261.7° |

**CALIBRATION TABLE**

| RELATIVE BEARING | -CORRECTION | RELATIVE BEARING | -CORRECTION |
|---|---|---|---|
| 000° | -3.0° | 180° | +4.0° |
| 045° | -1.0° | 225° | +2.0° |
| 090° | 0.0° | 270° | 0.0° |
| 135° | +1.0° | 315° | -0.5° |

A. LAT 25°17.0' S, LONG 46°38.8' W
B. LAT 25°18.1' S, LONG 46°38.2' W
C. LAT 25°19.3' S, LONG 46°43.3' W
D. LAT 25°20.8' S, LONG 46°47.6' W

ANS. C

134
2519 A plotting sheet should be used to plot the radiobeacons and solve the following problem.
On a voyage along the east coast of South America, your 1052 DR position is LAT 29°06.8' S, LONG 48°22.8' W. You are on course 056° T at 16.5 knots. The gyro error is 2° E. At 1102 the RDF gyro bearing of Cabo de Santa Marta Grande is 310.5°. At 1126 you change course to 000° T. At 1202 the RDF gyro bearing of Paranagua is 355°. What is your 1202 position based on these bearings?

| STATION | CABO DE SANTA MARTA GRANDE | PARANAGUA |
|---|---|---|
| LAT | 28°36.2' S | 25°30.0' S |
| LONG | 48°48.9' W | 48°19.0' W |

**CALIBRATION TABLE**

| RELATIVE BEARING | -CORRECTION | RELATIVE BEARING | -CORRECTION |
|---|---|---|---|
| 000° | + 2° | 180° | - 1° |
| 045° | 0° | 225° | 0° |
| 090° | - 1° | 270° | + 2° |
| 135° | - 3° | 315° | + 3° |

A. LAT 28°41.0' S, LONG 48°15.1' W
B. LAT 28°46.0' S, LONG 48°15.0' W
C. LAT 28°48.2' S, LONG 48°01.5' W
D. LAT 28°50.1' S, LONG 48°07.8' W

ANS. B

2520 A plotting sheet should be used to plot the radiobeacons and solve the following problem.
On a voyage along the west coast of Africa your 1315 DR position is LAT 29°10' N, LONG 11°49' W. You are on course 242° T; speed 13.5 knots. At 1315 you take RDF bearings. The gyro error is 0°. What is your position based on these bearings?

| STATION | ARRECIFE | EL AAIUN |
|---|---|---|
| LAT | 28°56.9' N | 27°10.0' N |
| LONG | 13°37.0' W | 13°13.0' W |
| RDF GYRO BEARING | 265.5° | 211.4° |

**CALIBRATION TABLE**

| RELATIVE BEARING | -CORRECTION | RELATIVE BEARING | -CORRECTION |
|---|---|---|---|
| 000° | +1.0° | 180° | -2.0° |
| 045° | -1.0° | 225° | -1.5° |
| 090° | -1.5° | 270° | +0.5° |
| 135° | -2.0° | 315° | +4.0° |

A. LAT 29°05.8' N, LONG 11°45.5' W
B. LAT 29°07.1' N, LONG 11°52.6' W
C. LAT 29°08.6' N, LONG 11°56.9' W
D. LAT 29°09.2' N, LONG 12°00.3' W

ANS. A

2521 A plotting sheet may be used to plot the radiobeacons and solve the following problem.
On a voyage in the Gulf of Mexico, your 2000 DR position is LAT 29°23.5' N, LONG 87°45.0' W. You are on course 062° T, speed 15 knots. At 2130 you take RDF bearings. The gyro error is 0.5° W. What is your position based on these bearings?

| STATION | MOBILE POINT | SW PASS JETTY | CAPE SAN BLAS |
|---|---|---|---|
| LAT | 30°13.6' N | 28°59.4' N | 29°40.2' N |
| LONG | 88°01.4' W | 89°08.5' W | 85°21.4' W |
| RDF GYRO BEARING | 313.7° | 253.7° | 085.5° |

**CALIBRATION TABLE**

| RELATIVE BEARING | -CORRECTION | RELATIVE BEARING | -CORRECTION |
|---|---|---|---|
| 000° | +1.0° | 180° | -1.0° |
| 045° | -1.0° | 225° | 0.0° |
| 090° | -3.0° | 270° | +1.5° |
| 135° | -1.0° | 315° | +3.0° |

A. LAT 29°24.0' N, LONG 86°54.0' W
B. LAT 29°28.5' N, LONG 87°06.4' W
C. LAT 29°32.3' N, LONG 87°12.0' W
D. LAT 29°33.1' N, LONG 87°18.0' W

ANS. C

2522 A plotting sheet may be used to plot the radiobeacons and solve the following problem.
On a voyage in the Gulf of Mexico, your 1000 DR position is LAT 26°25.0' N, LONG 84°35.0' W. You are on course 222.5° T, speed 20 knots. At 1223 you take RDF bearings. The gyro error is 2.5° E. What is your position based on these bearings?

| STATION | CAPE SAN BLAS | DRY TORTUGAS | EGMONT KEY |
|---|---|---|---|
| LAT | 29°40.2' N | 24°37.9' N | 27°36.0' N |
| LONG | 85°21.4' W | 82°55.3' W | 82°45.7' W |
| RDF Gyro BEARING | 358.5° | 113.4° | 049.2° |

**CALIBRATION TABLE**

| RELATIVE BEARING | -CORRECTION | RELATIVE BEARING | -CORRECTION |
|---|---|---|---|
| 000° | +1.0° | 180° | -1.0° |
| 045° | -1.0° | 225° | 0.0° |
| 090° | -3.0° | 270° | +1.5° |
| 135° | -1.0° | 315° | +3.0° |

A. LAT 25°43.9' N, LONG 85°19.2' W
B. LAT 25°45.2' N, LONG 85°10.0' W
C. LAT 25°47.5' N, LONG 85°05.5' W
D. LAT 25°53.5' N, LONG 85°22.0' W

ANS. A

138
2523 A plotting sheet may be used to plot the radiobeacons and solve the following problem.
On a voyage in the Gulf of Mexico, your 0900 DR position is LAT 28°24.0' N, LONG 83°26.0' W. You are on course 248° T, speed 18 knots. At 0957 you take RDF bearings. The gyro error is 3° E. What is your position based on these bearings?

| STATION | DRY TORTUGAS | YANKEETOWN | EGMONT KEY |
|---|---|---|---|
| LAT | 24°37.9' N | 28°58.0' N | 27°36.0' N |
| LONG | 82°55.3' W | 82°41.8' W | 82°45.7' W |
| RDF Gyro BEARING | 164.5° | 045.8° | 124.4° |

**CALIBRATION TABLE**

| RELATIVE BEARING | -CORRECTION | RELATIVE BEARING | -CORRECTION |
|---|---|---|---|
| 000° | +1.0° | 180° | -1.0° |
| 045° | -1.0° | 225° | 0.0° |
| 090° | -3.0° | 270° | +1.5° |
| 135° | -1.0° | 315° | +3.0° |

A. LAT 28°12.9' N, LONG 83°39.0' W
B. LAT 28°14.0' N, LONG 83°20.4' W
C. LAT 28°18.4' N, LONG 83°15.6' W
D. LAT 28°24.1' N, LONG 83°40.0' W

ANS. A

2524 A plotting sheet may be used to plot the radiobeacons and solve the following problem.
On a voyage in the Gulf of Mexico, your 1600 DR position is LAT 29°50.0' N, LONG 86°30.0' W. You are on course 139° T, speed 14 knots. At 1645 you take RDF bearings. The gyro error is 1.5° W. What is your position based on these bearings?

| STATION | MOBILE POINT | CAPE SAN BLAS | SW PASS JETTY |
|---|---|---|---|
| LAT | 30°13.6' N | 29°40.2' N | 28°59.4' N |
| LONG | 88°01.4' W | 85°21.4' W | 89°08.5' W |
| RDF Gyro BEARING | 301.9° | 082.3° | 259.4° |

**CALIBRATION TABLE**

| RELATIVE BEARING | -CORRECTION | RELATIVE BEARING | -CORRECTION |
|---|---|---|---|
| 000° | +1.0° | 180° | -1.0° |
| 045° | -1.0° | 225° | 0.0° |
| 090° | -3.0° | 270° | +1.5° |
| 135° | -1.0° | 315° | +3.0° |

A. LAT 29°25.5' N, LONG 86°15.6' W
B. LAT 29°31.4' N, LONG 86°20.4' W
C. LAT 29°33.0' N, LONG 86°39.0' W
D. LAT 29°45.0' N, LONG 86°37.7' W

ANS. C

2525 A plotting sheet may be used to plot the radiobeacons and solve the following problem.
On a voyage in the Gulf of Mexico, your 1845 DR position is LAT 28°15.0' N, LONG 85°50.0' W. You are on course 297° T, speed 12 knots. At 1930 you take RDF bearings. The gyro error is 1° W. What is your position based on these bearings?

| STATION | CAPE SAN BLAS | MOBILE POINT | SW PASS JETTY |
|---|---|---|---|
| LAT | 29°40.2' N | 30°13.6' N | 28°59.4' N |
| LONG | 85°21.4' W | 88°01.4' W | 89°08.5' W |
| RDF Gyro BEARING | 031.8° | 319.0° | 282.4° |

**CALIBRATION TABLE**

| RELATIVE BEARING | -CORRECTION | RELATIVE BEARING | -CORRECTION |
|---|---|---|---|
| 000° | +1.0° | 180° | -1.0° |
| 045° | -1.0° | 225° | 0.0° |
| 090° | -3.0° | 270° | +1.5° |
| 135° | -1.0° | 315° | +3.0° |

A. LAT 28°20.6' N, LONG 86°04.2' W
B. LAT 28°24.0' N, LONG 86°07.7' W
C. LAT 28°25.9' N, LONG 86°12.5' W
D. LAT 28°26.3' N, LONG 86°13.0' W

ANS. B

141
2526 A plotting sheet may be used to plot the radiobeacons and solve the following problem.
On a voyage in the Gulf of Mexico, your 1530 DR position is LAT 27°47.2' N, LONG 88°17.8' W. You are on course 041° T, speed 16 knots. At 1725 you take RDF bearings. The gyro error is 1.5° W. What is your position based on these bearings?

| STATION | SW PASS JETTY | MOBILE POINT | CAPE SAN BLAS |
|---|---|---|---|
| LAT | 28°59.4' N | 30°13.6' N | 29°40.2' N |
| LONG | 89°08.5' W | 88°01.4' W | 85°21.4' W |
| RDF Gyro BEARING | 298.7° | 347.7° | 054° |

**CALIBRATION TABLE**

| RELATIVE BEARING | -CORRECTION | RELATIVE BEARING | -CORRECTION |
|---|---|---|---|
| 000° | +1.0° | 180° | -1.0° |
| 045° | -1.0° | 225° | 0.0° |
| 090° | -3.0° | 270° | +1.5° |
| 135° | -1.0° | 315° | +3.0° |

A. LAT 28°10.0' N, LONG 87°28.0' W
B. LAT 28°13.0' N, LONG 87°25.0' W
C. LAT 28°15.0' N, LONG 87°35.0' W
D. LAT 28°17.0' N, LONG 87°42.0' W

ANS. C

142
2527 A plotting sheet may be used to plot the radiobeacons and solve the following problem.
On a voyage in the Gulf of Mexico, your 1845 DR position is LAT 30°34.5' N, LONG 86°15.5' W. You are on course 216° T, speed 8 knots. At 2245 you take RDF bearings. The gyro error is 0.5° W. What is your position based on these bearings?

| STATION | SW PASS JETTY | MOBILE POINT | CAPE SAN BLAS |
|---|---|---|---|
| LAT | 28°59.4' N | 30°13.6' N | 29°40.2' N |
| LONG | 89°08.5' W | 88°01.4' W | 85°21.4' W |
| RDF Gyro BEARING | 247.2° | 269.5° | 148.1° |

**CALIBRATION TABLE**

| RELATIVE BEARING | -CORRECTION | RELATIVE BEARING | -CORRECTION |
|---|---|---|---|
| 000° | +1.0° | 180° | -1.0° |
| 045° | -1.0° | 225° | 0.0° |
| 090° | -3.0° | 270° | +1.5° |
| 135° | -1.0° | 315° | +3.0° |

A. LAT 30°18.5' N, LONG 85°30.1' W
B. LAT 30°19.5' N, LONG 85°47.0' W
C. LAT 30°21.7' N, LONG 85°56.4' W
D. LAT 30°24.5' N, LONG 86°01.8' W

ANS. B

2528 A plotting sheet may be used to plot the radiobeacons and solve the following problem.
On a voyage in the Gulf of Mexico, your 0825 DR position is LAT 29°44.5' N, LONG 83°25.0' W. You are on course 221° T, speed 20 knots. At 0938 you take RDF bearings. The gyro error is 3° E. What is your position based on these bearings?

| STATION | YANKEETOWN | CAPE SAN BLAS | EGMONT KEY |
|---|---|---|---|
| LAT | 28°58.0' N | 29°40.2' N | 27°36.0' N |
| LONG | 82°41.8' W | 85°21.4' W | 82°45.7' W |
| RDF Gyro BEARING | 115.3° | 279.9° | 154.4° |

**CALIBRATION TABLE**

| RELATIVE BEARING | -CORRECTION | RELATIVE BEARING | -CORRECTION |
|---|---|---|---|
| 000° | +1.0° | 180° | -1.0° |
| 045° | -1.0° | 225° | 0.0° |
| 090° | -3.0° | 270° | +1.5° |
| 135° | -1.0° | 315° | +3.0° |

A. LAT 29°10.5' N, LONG 83°29.6' W
B. LAT 29°12.4' N, LONG 83°32.1' W
C. LAT 29°18.8' N, LONG 83°18.8' W
D. LAT 29°22.0' N, LONG 83°29.0' W

ANS. D

2529 A plotting sheet may be used to plot the radiobeacons and solve the following problem.
On a voyage in the Gulf of Mexico, your 0130 DR position is LAT 27°47.5' N, LONG 84°16.7' W. You are on course 099° T, speed 16.5 knots. At 0245 you take RDF bearings. The gyro error is 1° E. What is your position based on these bearings?

| STATION | YANKEETOWN | CAPE SAN BLAS | EGMONT KEY |
|---|---|---|---|
| LAT | 28°58.0' N | 29°40.2' N | 27°36.0' N |
| LONG | 82°41.8' W | 85°21.4' W | 82°45.7' W |
| RDF Gyro BEARING | 033.4° | 323.3° | 096.7° |

**CALIBRATION TABLE**

| RELATIVE BEARING | -CORRECTION | RELATIVE BEARING | -CORRECTION |
|---|---|---|---|
| 000° | +1.0° | 180° | -1.0° |
| 045° | -1.0° | 225° | 0.0° |
| 090° | -3.0° | 270° | +1.5° |
| 135° | -1.0° | 315° | +3.0° |

A. LAT 27°39.5' N, LONG 83°15.4' W
B. LAT 27°30.5' N, LONG 83°41.6' W
C. LAT 27°42.9' N, LONG 83°30.6' W
D. LAT 27°44.0' N, LONG 83°44.5' W

ANS. D

2530 A plotting sheet may be used to plot the radiobeacons and solve the following problem.
You are on a voyage in the Gulf of Mexico. Your 2200 DR position is LAT 27°10.0' N, LONG 85°29.0' W. You are on course 029° T, speed 16.0 knots. At 2245 you take RDF bearings. The gyro error is 2° W. What is your position based on these bearings?

| STATION | YANKEETOWN | EGMONT KEY | DRY TORTUGAS |
|---|---|---|---|
| LAT | 28°58.0' N | 28°36.0' N | 24°37.9' N |
| LONG | 82°41.8' W | 82°45.7' W | 82°55.3' W |
| RDF Gyro BEARING | 055.9° | 086.9° | 146.2° |

**CALIBRATION TABLE**

| RELATIVE BEARING | -CORRECTION | RELATIVE BEARING | -CORRECTION |
|---|---|---|---|
| 000° | +1.0° | 180° | -1.0° |
| 045° | -1.0° | 225° | 0.0° |
| 090° | -3.0° | 270° | +1.5° |
| 135° | -1.0° | 315° | +3.0° |

A. LAT 27°17.9' N, LONG 85°08.4' W
B. LAT 27°20.1' N, LONG 85°18.7' W
C. LAT 27°22.2' N, LONG 85°21.0' W
D. LAT 27°22.4' N, LONG 85°12.2' W

ANS. D

# ********END OF TABULAR QUESTIONS*******