Mercator Sailing Problems

Mercator Latitude and Longitude

MER B1. A vessel steams 1082 miles on course 047° T from latitude 37° 18.0' N, longitude 24° 40.0' W. What is the latitude and longitude of the point of arrival by Mercator sailing?

a) 49° 30' N, 6° 22' W
b) 49° 33' N, 6° 25' W
c) 49° 36' N, 6° 28' W - correct
d) 49° 39' N, 6° 31' W

MER B2. A vessel steams 1650 miles on course 077° T from latitude 12° 47' N, longitude 45° 10' E. What is the latitude and longitude of the point of arrival by Mercator sailing?

a) 18° 54' N, 72° 58' E
b) 18° 58' N, 72° 52' E - correct
c) 19° 02' N, 72° 44' E
d) 19° 06' N, 72° 36' E

MER B3. You depart latitude 49° 45.0' N, longitude 6° 35.0' W and steam 3599 miles on course 246.5° T. What is the longitude of your arrival by Mercator sailing?

a) 76° 36.2' W
b) 77° 02.8' W - correct
c) 78° 14.0' W
d) 78° 22.6' W

Mercator Course and/or Distance

MER B4. Your vessel departs latitude 32° 45’ N, longitude 79° 50’ W, and is bound for latitude 34° 21’ S, longitude 18° 29’ E. Determine the distance by Mercator sailing.

a) 5,021 miles
b) 6,884 miles - correct
c) 6,954 miles
d) 7,002 miles

MER B5. Your vessel receives a distress call from a vessel reporting her position as latitude 35° 01’ S, longitude 18° 51’ W. Your position is latitude 30° 18’ S, longitude 21° 42’ W. Determine the true course from your vessel to the vessel in distress by Mercator sailing.

a) 135° T
b) 149° T
c) 153° T - correct
d) 160° T

MER B6. A vessel at latitude 32° 14.7’ N, longitude 66° 28.9’ W heads for a destination at latitude 36° 58.7’ N, longitude 75° 42.2’ W. Determine the true course by Mercator sailing.

a) 058.2° T
b) 235.2° T
c) 301.8° T - correct
d) 348.3° T

MER B7. A vessel at latitude 10° 22’ S, longitude 7° 18’ E heads for a destination at latitude 6° 54’ N, longitude 57° 23’ W. Determine the course and distance by Mercator sailing.

a) 285° T, 3825.3 miles
b) 285° T, 4025.7 miles - correct
c) 296° T, 3825.3 miles
d) 296° T, 4025.7 miles

MER B8. A vessel at latitude 18° 54’ N, longitude 73° 00’ E heads for a destination at latitude 13° 12’ N, longitude 54° 00’ E. Determine the true course and distance by Mercator sailing.

a) 247° T, 1161 miles
b) 250° T, 1172 miles
c) 253° T, 1154 miles - correct
d) 256° T, 1136 miles

MER B9. A vessel at latitude 21° 18.5’ N, longitude 157° 52.2’ W heads for a destination at latitude 8° 53.0’ N, longitude 79° 31.0’ W. Determine the true course and distance by Mercator sailing.

a) 081° T, 4617.5 miles
b) 081° T, 4915.8 miles
c) 099° T, 4617.5 miles - correct
d) 099° T, 4915.8 miles

MER B10. A vessel at latitude 29° 38.0’ N, longitude 93° 49.0’ W heads for a destination at latitude 24° 38.0’ N, longitude 82° 55.2’ W. Determine the true course and distance by Mercator sailing.

a) 115° T, 637 miles
b) 117° T, 658 miles - correct
c) 122° T, 648 miles
d) 126° T, 665 miles