

**NAUTICAL SCIENCE**  
**GRADE 11**  
**SAILINGS**

TEST QUESTIONS

1. Your vessel departs a position A ( $08^{\circ} 20' N$   $24^{\circ} 30' E$ ) and steams due east at 16 knots for 3 days to a position B. From B you steam due south at 16 knots for a further 5 days to a position C. What is the latitude and longitude of position C?
  
2. Your vessel is due to sail from Shanghai ( $31^{\circ} 14' N$   $121^{\circ} 28' E$ ) to Kobe ( $34^{\circ} 40' N$   $135^{\circ} 12' E$ ). You plan to maintain an average speed of 12 knots.  
Determine:
  - a. By plane sailing the course and distance between the two ports.
  - b. If you left Shanghai at 0800 H on 12 August, when would you arrive in Kobe in your destination's zone time?
  
3. Your vessel is due to sail from Port Elizabeth ( $33^{\circ} 57' S$   $25^{\circ} 39' E$ ) to Melbourne ( $37^{\circ} 50' S$   $144^{\circ} 58' E$ ). You plan to maintain an average speed of 16 knots.  
Determine:
  - a. By Mercator sailing the course and distance between the two ports.
  - b. If you departed Port Elizabeth at 1200 B on 15 August when would you arrive in Melbourne in Australian zone time?