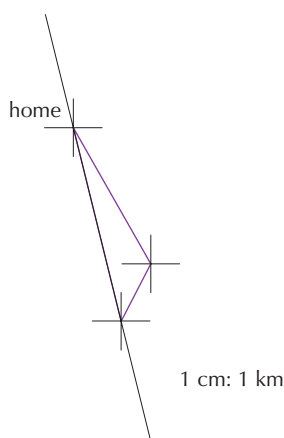


Chapter 12

Exercise 12A

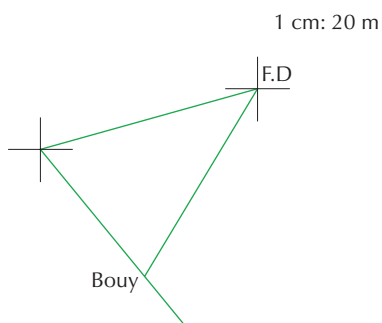
- 1 a 4.24 km at 149°
 b 329°
 c 2.1 km at 299°
- 2 a 1.15 km , 123°
 b 0.5 km , 42°
- 3 4 km , 259°
 6.6 km , 206°
- 4 start – A: 408 m , 95°
 A – B: 515 m , 148°
 B – C: 468 m , 37°
 C – D: 936 m , 242°
 D – E: 300 m , 345°
 E – Fin: 336 m , 230°

5 a, b



c 6.3 km , 346°

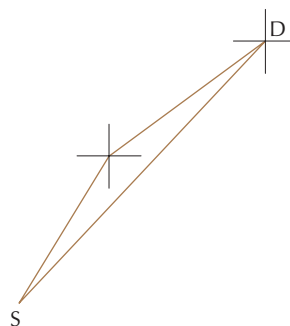
6 a



b 210 m

c 214°

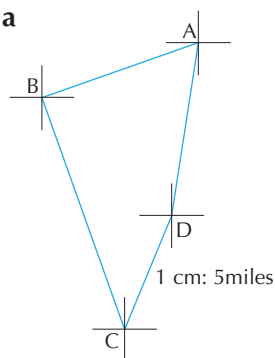
7 a



b 22.5 miles

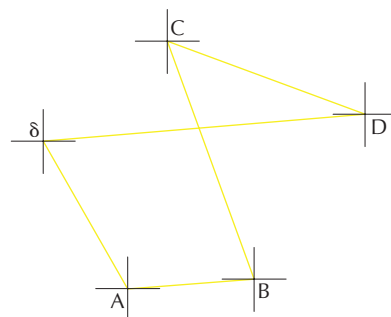
c 223°

8 a



b 42 miles , 8°

9 a $1\text{ cm: }100\text{ m}$



b 268°

c 51 mins

10 a 125 km , 45° , 375 km , 267° , 295 km , 106°

b 295 km , 286° , 375 km , 87° , 125 km , 225°

11 B, 200m, 355°

12 Note error in question. It is not a requirement to visit every point once.

Beginner

A to M

214°, 430m

M to E

280°, 600m

E to D

252°, 350 m

Total distance = 1480m

Course meets the criteria as the total distance covered is under 1.5km

Intermediate

G to M

130°, 560m

M to E

280°, 600m

E to T

126°, 740m

Total distance = 1900m

Course meets the criteria as the total distance covered is longer than the beginner course and is under 2km

Expert

G to M

130°, 560m

M to E

280°, 600m

E to T

126°, 740m

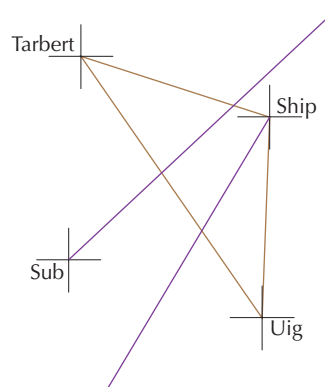
T to A

19°, 730m

Total distance = 2360m

Course meets the criteria as the total distance covered is above 2km

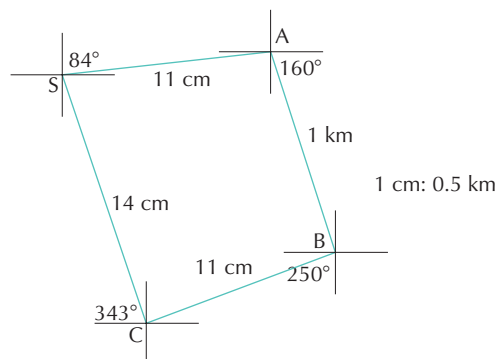
13



1 cm: 5 km

d No, Submarine OK on course.

Activity



Start-A: 11cm:5.5km: 84°

AB: 11cm:5.5km: 160°

BC: 11cm:5.5km: 250°

C-Start: 14cm:7km: 343°