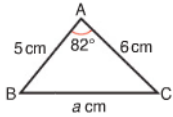


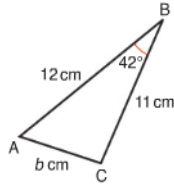
Exercise 87

Write your answers correct to 3 significant figures.

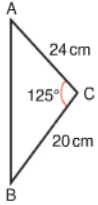
1 Find a .



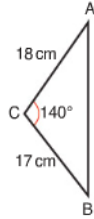
2 Find b .



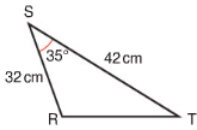
3 Find AB.



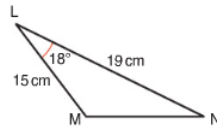
4 Find AB.



5 Find RT.

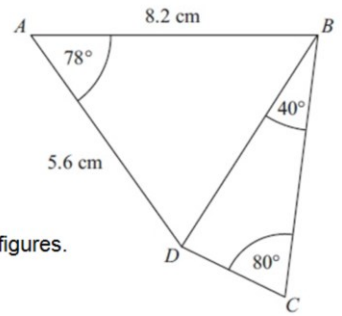


6 Find MN.



Challenge 1

$ABCD$ is a quadrilateral.

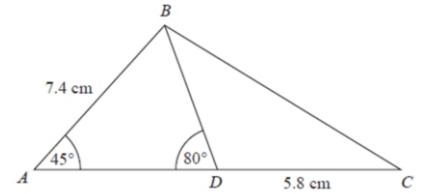


Work out the length of DC .

Give your answer correct to 3 significant figures.

Challenge 2

ABC is a triangle.
 D is a point on AC .
 Angle $BAD = 45^\circ$
 Angle $ADB = 80^\circ$
 $AB = 7.4$ cm
 $DC = 5.8$ cm



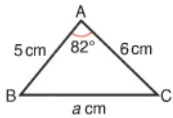
Work out the length of BC .

Give your answer correct to 3 significant figures.

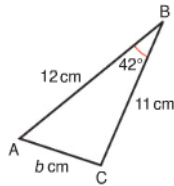
Exercise 87

Write your answers correct to 3 significant figures.

1 Find a .



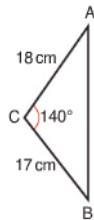
2 Find b .



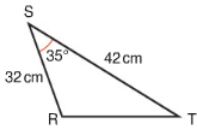
3 Find AB.



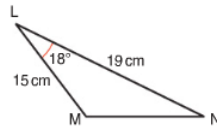
4 Find AB.



5 Find RT.

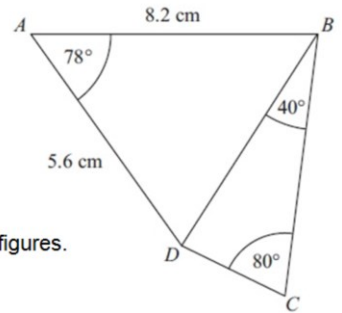


6 Find MN.



Challenge 1

$ABCD$ is a quadrilateral.

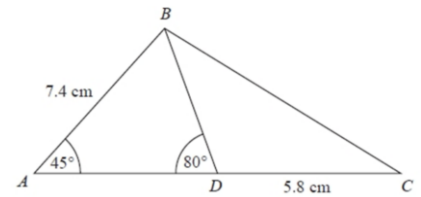


Work out the length of DC .

Give your answer correct to 3 significant figures.

Challenge 2

ABC is a triangle.
 D is a point on AC .
 Angle $BAD = 45^\circ$
 Angle $ADB = 80^\circ$
 $AB = 7.4$ cm
 $DC = 5.8$ cm



Work out the length of BC .

Give your answer correct to 3 significant figures.

EXERCISE 87

- | | | | |
|-----------------------------|-----------------------------|--------------------------|--------------------------|
| 1 $x = 7.26$ | 2 $b = 8.30$ | 3 $AB = 39.1 \text{ cm}$ | 4 $XY = 32.9 \text{ cm}$ |
| 5 $RT = 24.2 \text{ cm}$ | 6 $MN = 6.63 \text{ cm}$ | 7 $X = 73.4^\circ$ | 8 $Y = 70.5^\circ$ |
| 9 $\angle ABC = 92.9^\circ$ | 10 $\angle XYZ = 110^\circ$ | | |

Challenge 1

Working	Answer	Mark	Notes
$DB^2 = 5.6^2 + 8.2^2 - 2 \times 5.6 \times 8.2 \cos 78$ $DB^2 = 79.505\dots$ $DB = 8.9165795\dots$ $\frac{8.9165\dots}{\sin 80} = \frac{DC}{\sin 40}$ $DC = \frac{8.9165\dots \times \sin 40}{\sin 80}$ $= 8.9165\dots \times 0.6572\dots$ $= 5.8198$	5.82	6	M1 Cosine rule: $DB^2 = 5.6^2 + 8.2^2 - 2 \times 5.6 \times 8.2 \times \cos 78$ M1 $\sqrt{79.505\dots}$ (=8.9165795...) A1 for $DB = 8.90$ to 8.92 M1 $\frac{8.9165\dots}{\sin 80} = \frac{DC}{\sin 40}$ M1 $\frac{8.9165\dots \times \sin 40}{\sin 80}$ (=5.8198) A1 for answer 5.80 to 5.83 If working in RAD or GRAD award method marks only. RAD: $DB=13.318\dots$, $DC=-9.98\dots$ GRAD: $DB=8.2152\dots$, $DC=5.0773\dots$

Challenge 2

Answer	Mark	Notes
8.52	5	M1 for $\frac{BD}{\sin 45} = \frac{7.4}{\sin 80}$ oe M1 for $(BD) = \frac{7.4}{\sin 80} \times \sin 45$ (=5.3133...) M1 for $5.8^2 + 5.31^2 - 2 \times 5.8 \times 5.31 \cos 100$ M1 (dep) for correct order of evaluation or 72.5(73...) A1 for 8.51–8.52