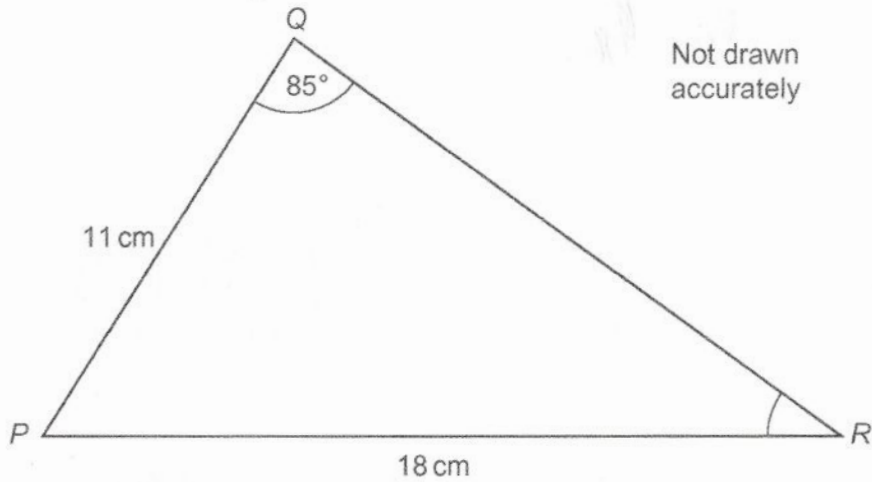


1

Work out the size of angle QRP.



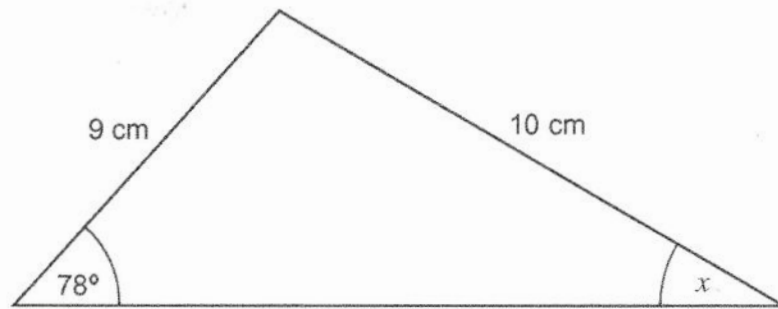
$$\frac{\sin 85}{18} = \frac{\sin R}{11}$$

$$\sin^{-1}\left(11 \times \frac{\sin 85}{18}\right)$$

Answer 37.5 degrees (3 marks)

2

Work out the size of angle x .



Not drawn accurately

[3 marks]

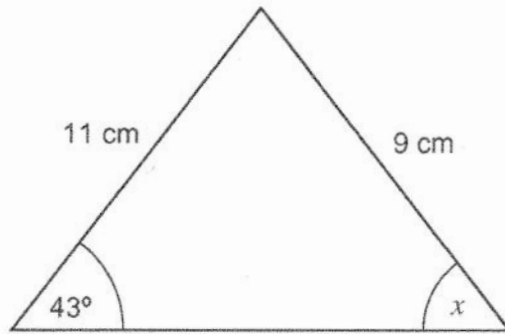
$$\frac{\sin 78}{10} = \frac{\sin x}{9}$$

$$\sin^{-1} \left(9 \times \frac{\sin 78}{10} \right) = 61.6825$$

Answer 61.7 degrees

3

In the triangle x is an acute angle.



Not drawn accurately

Work out the size of angle x .

[3 marks]

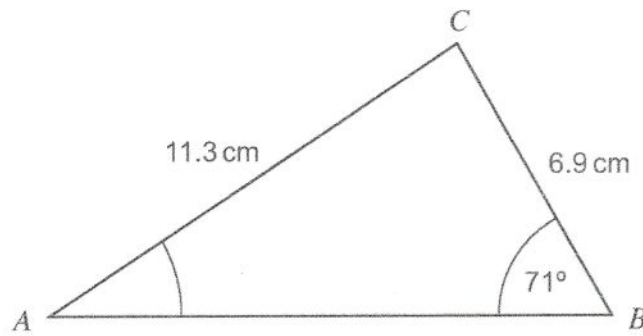
$$\frac{\sin 43}{9} = \frac{\sin x}{11}$$

$$\sin^{-1} \left(11 \times \frac{\sin 43}{9} \right) = 56.4655$$

Answer 56.5 degrees

4

Work out the size of angle A.

Not drawn
accurately

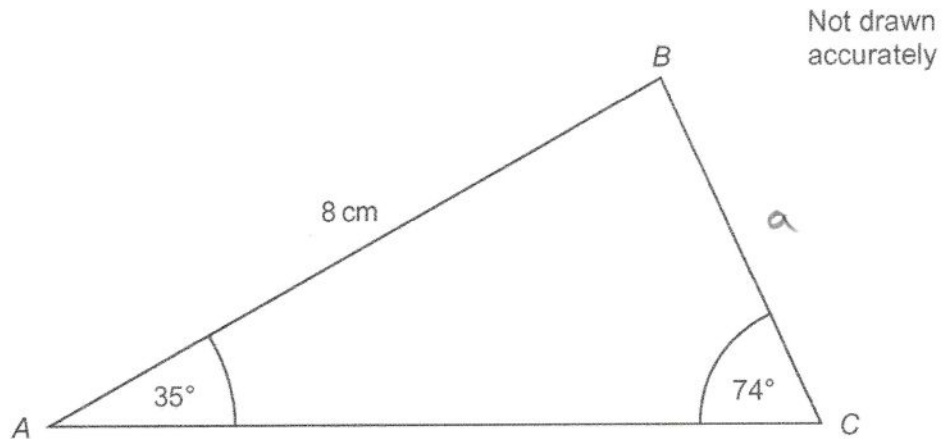
Give your answer to a suitable degree of accuracy.

$$\frac{\sin 71}{11.3} = \frac{\sin A}{6.9}$$

$$\sin^{-1} \left(6.9 \times \frac{\sin 71}{11.3} \right) = 35.26$$

Answer 35.26 degrees (4 marks)

5 ~~11~~



Use the sine rule to work out the length BC .

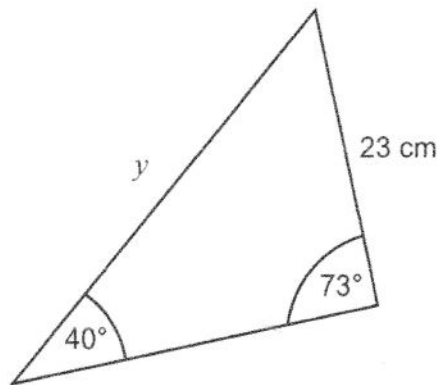
[3 marks]

$$\frac{8}{\sin 74} = \frac{a}{\sin 35}$$

$$\sin 35 \times \frac{8}{\sin 74}$$

Answer 4.77 or 4.8 cm

6

Work out length y .Not drawn
accurately

[3 marks]

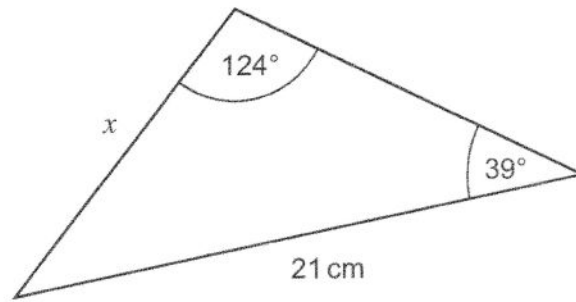
$$\frac{23}{\sin 40} = \frac{y}{\sin 73}$$

$$y = \sin 73 \times \frac{23}{\sin 40}$$

Answer 34.2 cm

7

Work out the length x .



Not drawn accurately

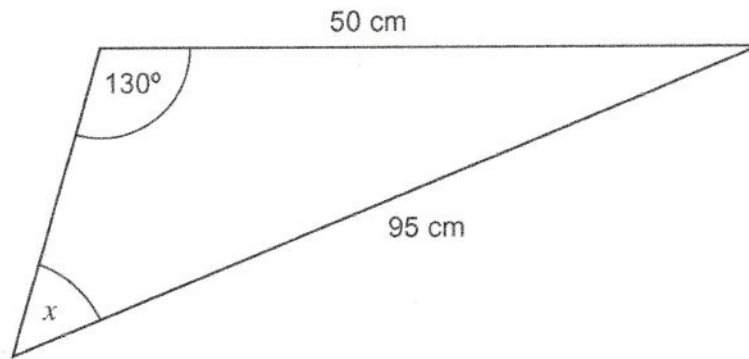
$$\frac{21}{\sin 124} = \frac{x}{\sin 39}$$

$$\sin 39 \times \frac{21}{\sin 124} = 15.941$$

Answer 15.9 cm (3 marks)

8

Work out the size of angle x .



Not drawn accurately

[3 marks]

$$\frac{\sin 130}{95} = \frac{\sin x}{50}$$

$$\sin^{-1} \left(50 \times \frac{\sin 130}{95} \right) = 23.777$$

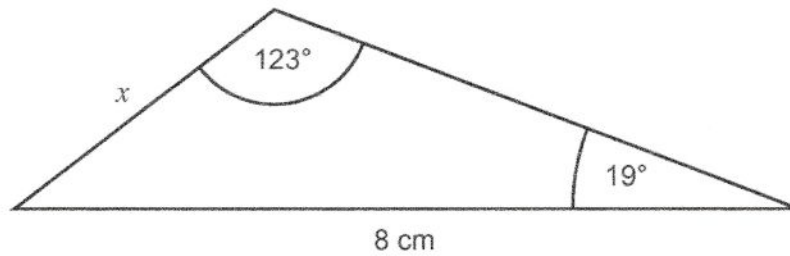
Answer 23.8 degrees

9 (a)

Work out the length x .

[3 marks]

Not drawn accurately



$$\frac{8}{\sin 123} = \frac{x}{\sin 19}$$
$$x = \frac{\sin 19 \times 8}{\sin 123}$$

Answer 3.1 cm

9 (b)

Circle the statements that are true.

[2 marks]

$\sin 123^\circ = \sin 57^\circ$

$\sin 123^\circ = \cos 57^\circ$

$\cos 123^\circ = \cos 57^\circ$

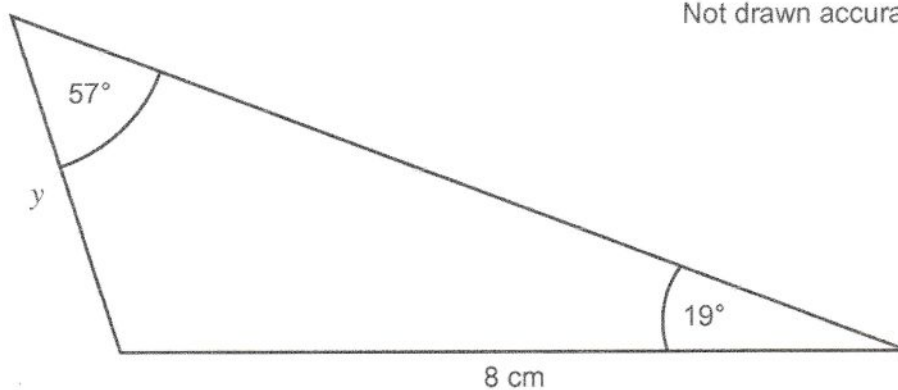
$\cos 123^\circ = -\cos 57^\circ$

9 (c)

Work out the length y .

[1 mark]

Not drawn accurately



$$\frac{8}{\sin 57} = \frac{y}{\sin 19}$$

$$y = \sin 19 \times \frac{8}{\sin 57}$$

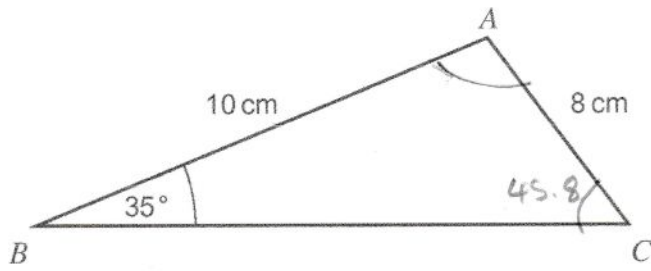
Same as part a)

Answer 3.1 cm

10

In the diagram, angle A is obtuse.

Not drawn accurately



Work out the size of angle A.

$$\frac{\sin 35}{8} = \frac{\sin C}{10} \quad C = \sin^{-1}\left(\frac{10 \times \sin 35}{8}\right)$$

$$C = 45.8$$

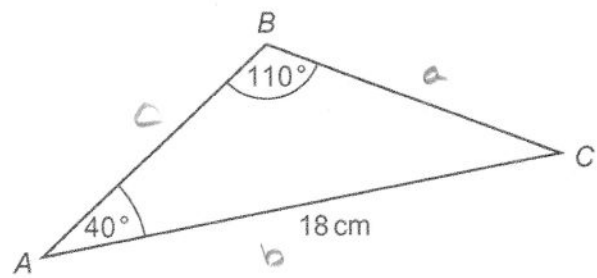
$$180 - 35 - 45.8$$

Answer 99.2 degrees (4 marks)

11

Work out the length BC.

Not drawn accurately

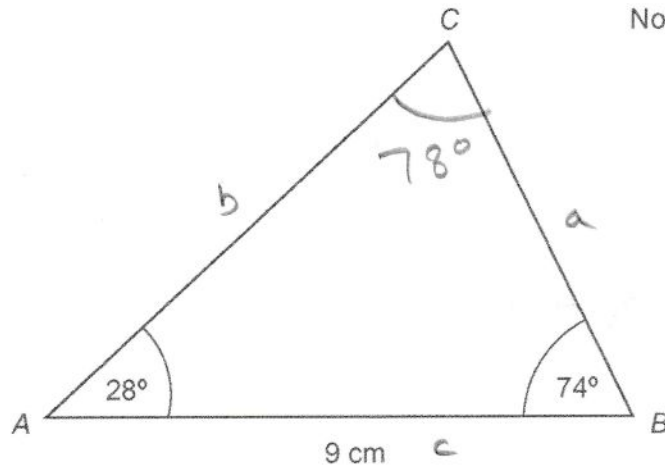


$$\frac{18}{\sin 110} = \frac{a}{\sin 40} \quad a = \frac{\sin 40 \times 18}{\sin 110}$$

$$a = 12.3$$

Answer 12.3 cm (3 marks)

Not drawn accurately

Work out the length of BC .

[4 marks]

$$180 - 74 - 28 = 78$$

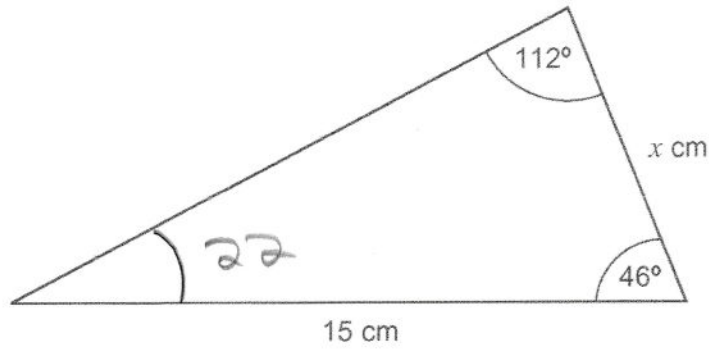
$$\frac{9}{\sin 78} = \frac{a}{\sin 28}$$

$$a = \sin 28 \times \frac{9}{\sin 78}$$

Answer 4.3 cm

13

Not drawn accurately



Work out the value of x .

[4 marks]

$$\frac{x}{\sin 22} = \frac{15}{\sin 112}$$

$$x = \sin 22 \times \frac{15}{\sin 112} = 6.060$$

Answer 6 cm