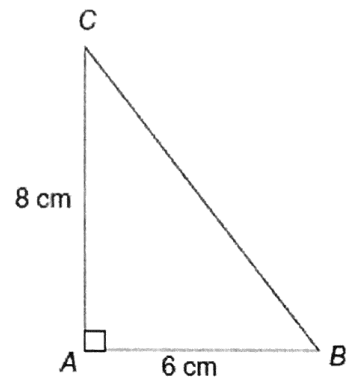
End of Unit Test Name: Answers

Pythagoras' Theorem and Trigonometry - FOUNDATION

Calculator allowed

1) Calculate the length BC. You must show your working. Not drawn accurately

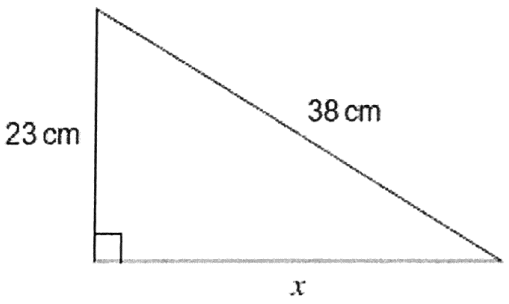


$CB = \sqrt{8^2 + 6^2} = \sqrt{64 + 36} = \sqrt{100} = 10$

Answer 10 cm

(Total 3 marks)

2) Calculate the length *x* in the triangle. Not drawn accurately

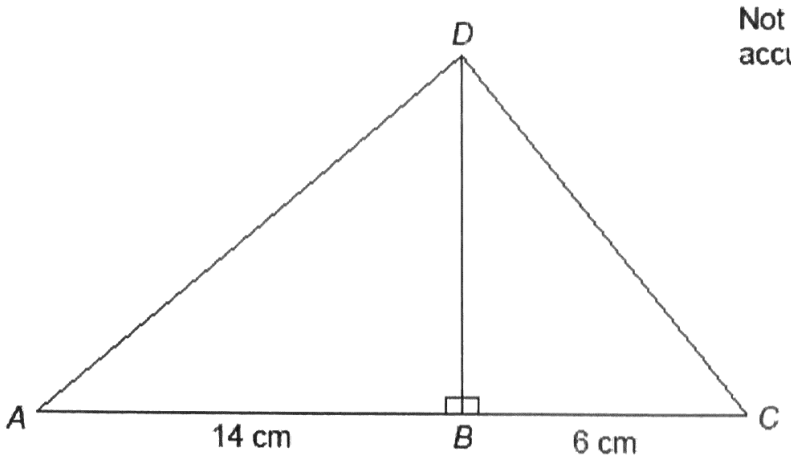


$x = \sqrt{38^2 - 23^2} = \sqrt{915} = 30.25$ (2 d.p.)

Answer 30.25 cm

(Total 3 marks)

3) In the diagram the area of triangle *ABD* is 56 cm^2



Not drawn accurately

Work out the length of *CD*.

$\frac{20 \times BD}{2} = 56$

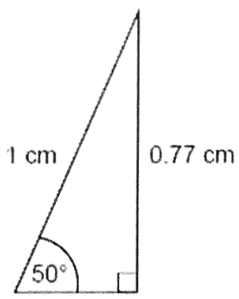
$BD = 5.6$

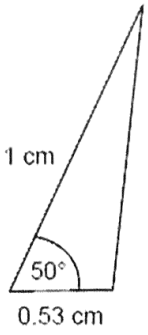
$CD = \sqrt{6^2 + 5.6^2} = 8.21$ (2 d.p)

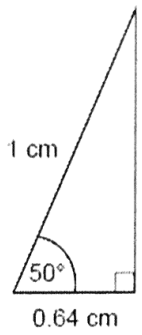
Answer 8.21 cm

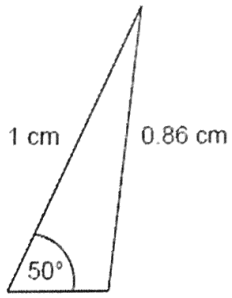
(Total 4 marks)

4) Here are sketches of four triangles. Not drawn accurately









In each triangle.

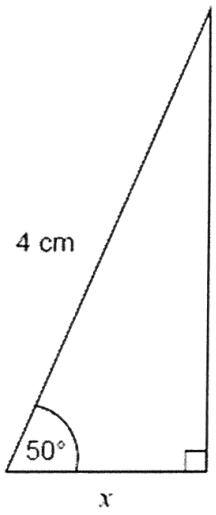
- the longest side is **exactly** 1 cm
- the other length is given to 2 decimal places.

(a) Circle the value of cos 50° to 2 decimal places.

0.77 0.53 (0.64) 0.86

(1)

(b) Work out the value of x. Give your answer to 1 decimal place. Not drawn accurately



4 × cos 50 = 4 × 0.64 = 2.56

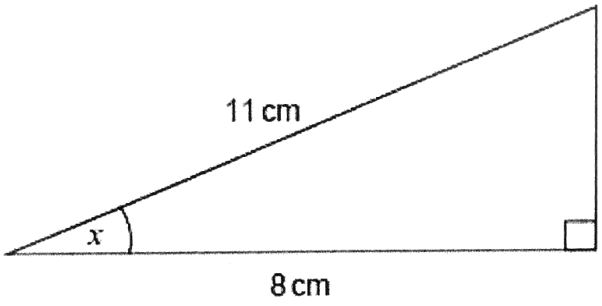
Answer 2.6 cm

(2)

(Total 3 marks)

5) (a) Work out the size of angle x.

Not drawn accurately



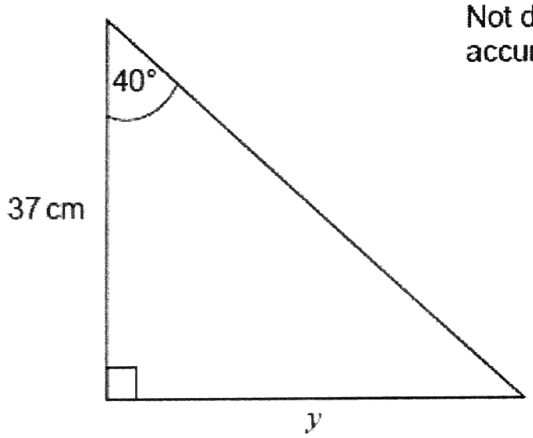
$\cos^{-1}\left(\frac{8}{11}\right) = 43.3$ (1 d.p.)

Answer 43.3 degrees

(2)

(b) Work out length y.

Not drawn accurately



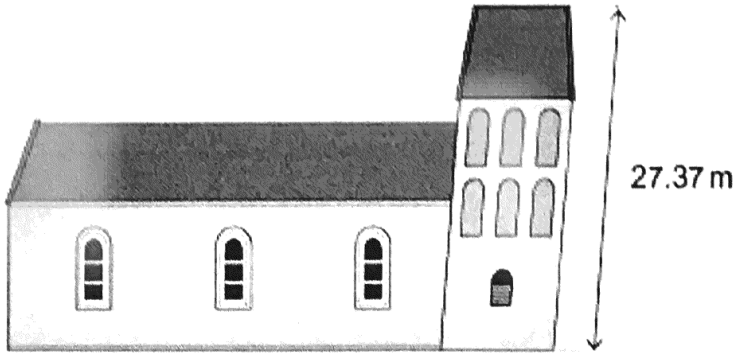
tan 40 × 37 = 31.05 (2 dp)

Answer 31.05 cm

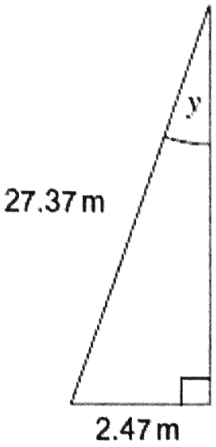
(2)

(Total 4 marks)

6) A church tower leans at an angle. Not drawn accurately



The diagram below shows the angle, *y*, at which the tower leans. Not drawn accurately



Work out angle *y*.

$\sin^{-1}\left(\frac{2.47}{27.37}\right) = 5.2$ (1 d.p.)

Answer 5.2 degrees

(Total 3 marks)

(Total for test = 20 marks)