

1.

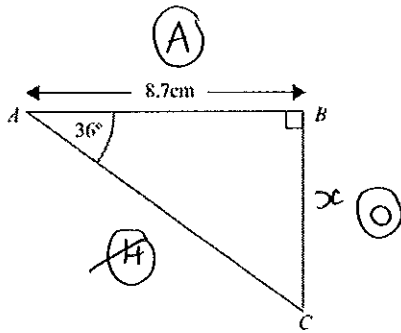


Diagram NOT accurately drawn

~~SOH~~ ~~CAH~~ TOA

ABC is a right-angled triangle.

- Angle B = 90°.
- Angle A = 36°.
- AB = 8.7 cm.

$$\tan(36) = \frac{x}{8.7}$$

$$x = 8.7 \times \tan(36)$$

Work out the length of BC.
Give your answer correct to 3 significant figures.

..... 6.32 cm
(3 marks)

2.

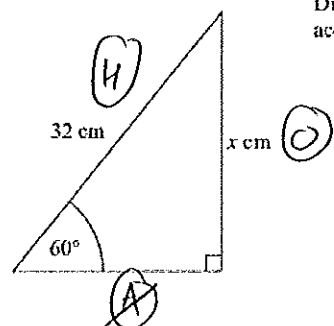


Diagram NOT accurately drawn

~~SOH~~ ~~CAH~~ ~~FOA~~

Calculate the value of x.
Give your answer correct to 3 significant figures.

$$\sin(60) = \frac{x}{32}$$

$$x = 32 \times \sin(60)$$

$$x = 27.7$$

..... 27.7 cm
(3 marks)

3.

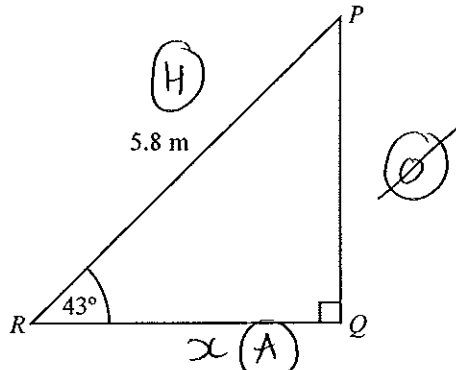


Diagram NOT accurately drawn

PQR is a triangle.
 Angle $Q = 90^\circ$.
 Angle $R = 43^\circ$.
 $PR = 5.8$ m.

$$\cos(43) = \frac{x}{5.8}$$

Calculate the length of QR .
 Give your answer correct to 3 significant figures.

$$5.8 \cos(43) = x$$

.....4.24..... m

(3 marks)

4.

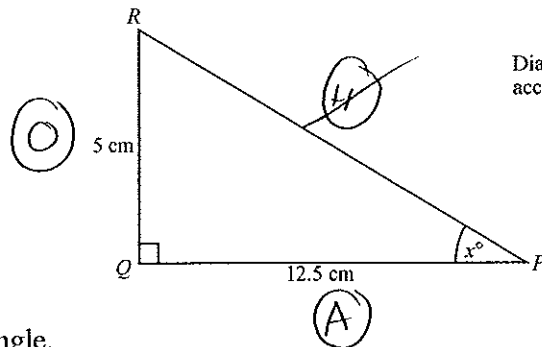


Diagram NOT accurately drawn

PQR is a triangle.
 Angle $PQR = 90^\circ$.
 $PQ = 12.5$ cm.
 $QR = 5$ cm.

~~SOH CAH TOA~~

$$\tan(x) = \frac{5}{12.5}$$

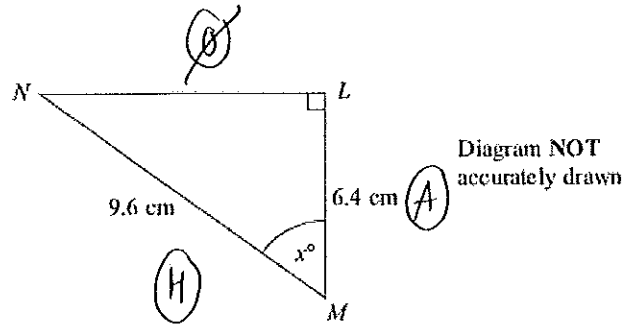
$$x = 21.8^\circ$$

Calculate the value of x .
 Give your answer correct to 1 decimal place.

.....21.8.....

(3 marks)

5.



LMN is a right-angled triangle.
 $MN = 9.6$ cm.
 $LM = 6.4$ cm.

Calculate the size of the angle marked x° .
Give your answer correct to 1 decimal place.

SOH CAH TOA

$$\cos(x) = \frac{6.4}{9.6}$$

$$x = 48.2^\circ$$

.....48.2.....°

(3 marks)

6.

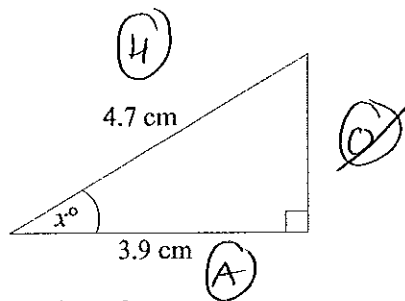


Diagram NOT accurately drawn

Work out the value of x .
Give your answer correct to 1 decimal place.

SOH CAH TOA

$$\cos(x) = \frac{3.9}{4.7}$$

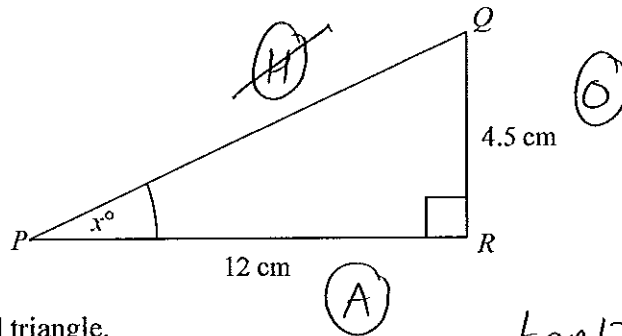
$$x = 33.9^\circ$$

$x =$ 33.9.....°

(3 marks)

7.

Diagram NOT
accurately drawn



PQR is a right-angled triangle.

$PR = 12$ cm.

$QR = 4.5$ cm.

Angle $PRQ = 90^\circ$.

Work out the value of x .

Give your answer correct to one decimal place.

$$\tan(x) = \frac{4.5}{12}$$

$$x = \tan^{-1}\left(\frac{4.5}{12}\right)$$

$$x = 20.6^\circ$$

$$x = \dots 20.6^\circ \dots$$

(3 marks)

8. Calculate the size of angle a in this right-angled triangle.
Give your answer correct to 3 significant figures.

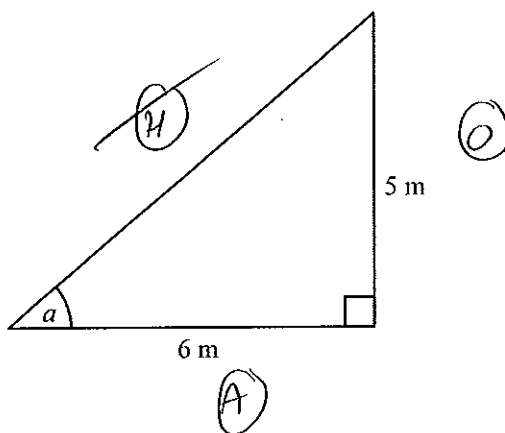


Diagram NOT
accurately drawn

$$\tan(a) = \frac{5}{6}$$
$$a = \tan^{-1}\left(\frac{5}{6}\right)$$

$$\dots 39.8^\circ \dots$$

(3 marks)

9. PQR is a right-angled triangle.

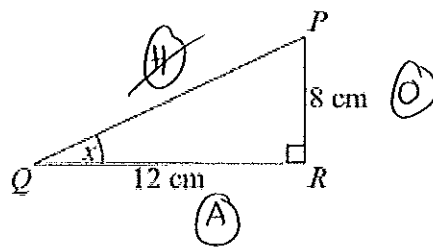


Diagram NOT accurately drawn

SOH CAH TOA

$PR = 8 \text{ cm.}$
 $QR = 12 \text{ cm.}$

- (a) Find the size of the angle marked x .
 Give your answer correct to 1 decimal place.

$$\tan(x) = \frac{8}{12}$$

$$x = \tan^{-1}\left(\frac{8}{12}\right)$$

$$x = 33.7^\circ$$

$$\underline{\underline{33.7^\circ}} \quad (3)$$

XYZ is a different right-angled triangle.

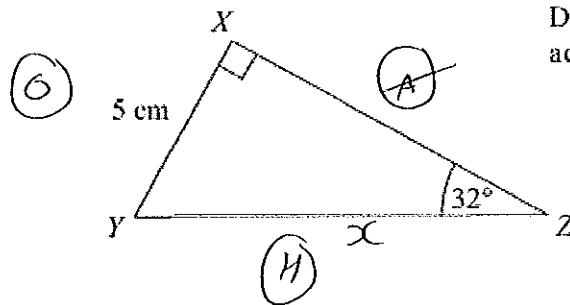


Diagram NOT accurately drawn

SOH

$XY = 5 \text{ cm.}$
 Angle $Z = 32^\circ$.

- (b) Calculate the length YZ .
 Give your answer correct to 3 significant figures.

$$\sin(32) = \frac{5}{x}$$

$$x = \frac{5}{\sin(32)}$$

$$x = 9.44 \text{ cm}$$

$$\underline{\underline{9.44 \text{ cm}}} \quad (3)$$

(6 marks)

10. The diagram shows a quadrilateral $ABCD$.

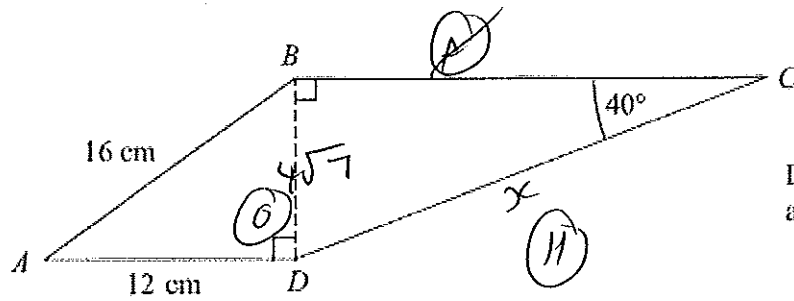


Diagram NOT accurately drawn

$$AB = 16 \text{ cm.}$$

$$AD = 12 \text{ cm.}$$

$$\text{Angle } BCD = 40^\circ.$$

$$\text{Angle } ADB = \text{angle } CBD = 90^\circ.$$

Calculate the length of CD .

Give your answer correct to 3 significant figures.

$$BD = \sqrt{16^2 - 12^2}$$

$$= 4\sqrt{7}$$

SOH CAH TOA

$$\sin(40) = \frac{4\sqrt{7}}{x}$$

$$x = \frac{4\sqrt{7}}{\sin(40)}$$

$$x = 16.5$$

..... 16.5 cm

(5 marks)

11.

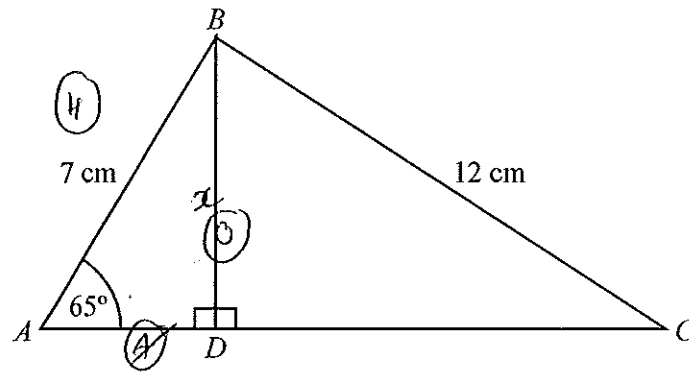


Diagram NOT accurately drawn

ABC is a triangle.
 ADC is a straight line with BD perpendicular to AC .
 $AB = 7$ cm.
 $BC = 12$ cm.
 Angle $BAD = 65^\circ$.

Calculate the length of AC .
 Give your answer correct to 3 significant figures.

SOHCAHTOA

$$\sin(65) = \frac{x}{7}$$

$$x = 7 \times \sin(65)$$

$$= 6.344154509$$

$$7^2 = AD^2 + 6.344^2$$

$$AD^2 = 7^2 - 6.344^2$$

$$AD = \sqrt{7^2 - 6.344^2}$$

$$= 2.96 \text{ cm}$$

$$2.958327832 \text{ cm}$$

$$AC = AD + CD$$

$$= 13.14418585$$

$$12^2 = CD^2 + 6.344...^2$$

$$CD = \sqrt{12^2 - 6.344...^2}$$

$$= 10.18585807$$

$$\dots 13.1 \dots \text{ cm}$$

(6 marks)