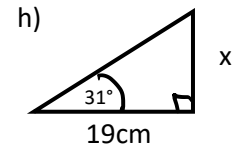
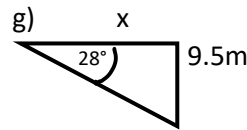
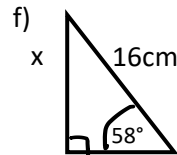
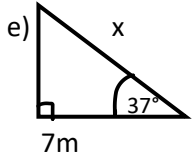
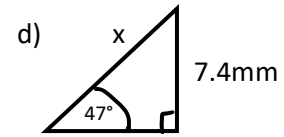
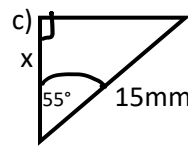
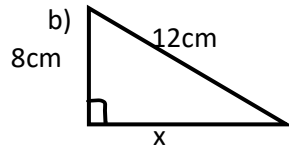
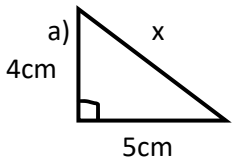
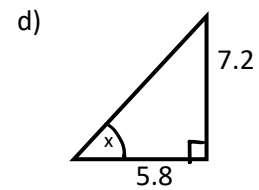
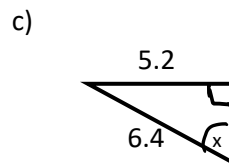
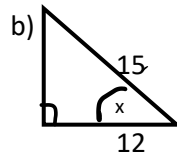
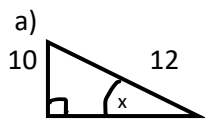


Higher IGCSE week 8 homework

1 in the following right angled triangles find the missing sides



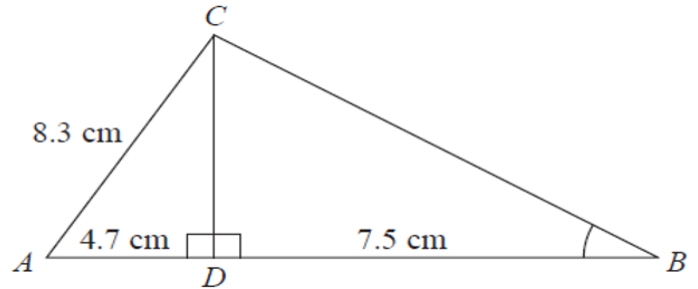
2 Find the missing angles in the right angled triangles



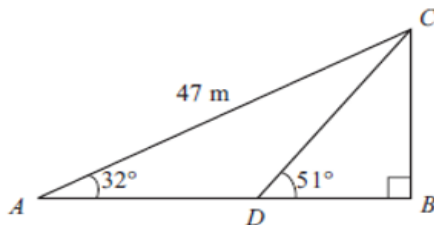
3

The diagram shows triangle ABC .
 D is the point on AB , such that CD is perpendicular to AB .
 $AC = 8.3$ cm.
 $AD = 4.7$ cm.
 $BD = 7.5$ cm.

Calculate the size of angle ABC .
 Give your answer correct to 1 decimal place.



4



Triangle ABC is right-angled at B .
 Angle $BAC = 32^\circ$
 $AC = 47$ m.
 D is the point on AB such that angle $BDC = 51^\circ$

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

5 B , C and D are points on a circle centre O

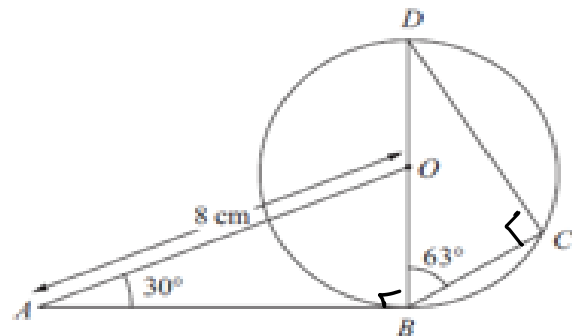
BOD is a diameter of the circle

AB is the tangent to the circle at B

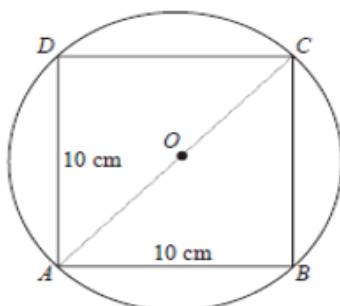
$AO = 8$ cm Angle $BAO = 30^\circ$ Angle $CBD = 63^\circ$

Calculate the length of BC

give your answers correct to 3 significant figures



6

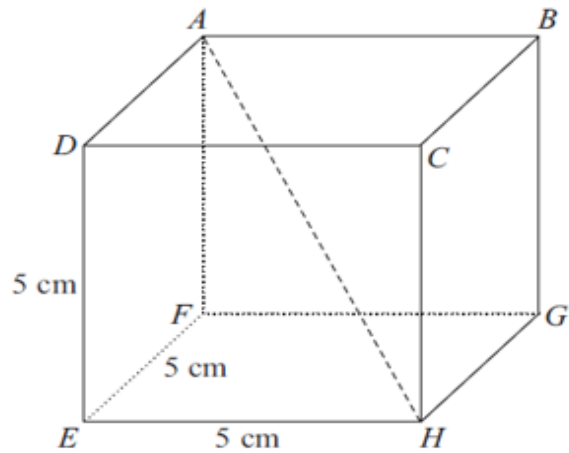


The diagram shows a square $ABCD$ drawn inside a circle, centre O .
 A , B , C and D are points on the circle.
 The lengths of the sides of the square are 10 cm.
 AC is a diameter of the circle.

Calculate the circumference of the circle.
 Give your answer correct to 3 significant figures.

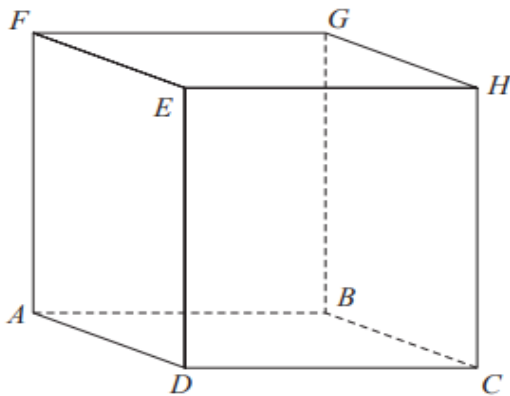
7

The diagram shows a cube $ABCDEFGH$.
The sides of the cube are of length 5 cm.



- work out the length of FH
- work out the length of AH
- calculate the size of the angle between the diagonal AH and the base EFGH
give your answers correct to 1 decimal place

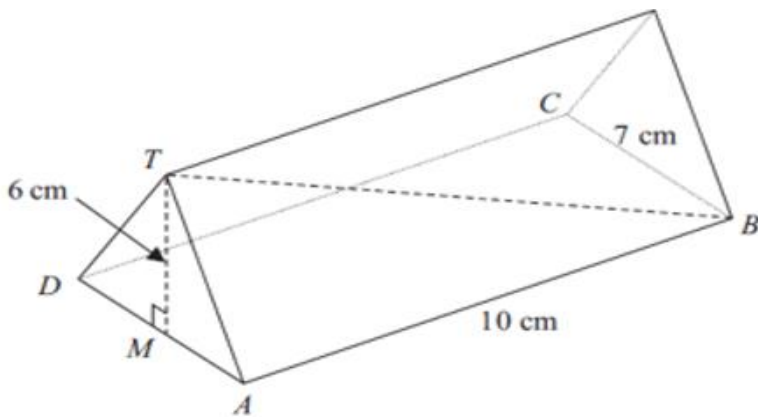
8



The diagram shows a cuboid ADCBFEHG
 $AD = 8\text{cm}$, $DC = 7\text{cm}$ & $AF = 12\text{cm}$

- work out the length of AC
- work out the length of AH
- calculate the size of the angle between the diagonal AH and the base ADCB
give your answers correct to 3 significant figures

9



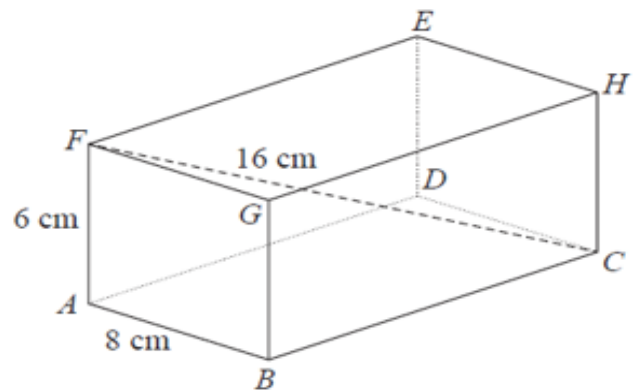
The diagram shows a triangular prism with a horizontal rectangular base ABCD
 $AB = 10\text{cm}$ $BC = 7\text{cm}$
M is the midpoint of AD
The vertex T is vertically above M
 $MT = 6\text{cm}$

- Calculate the length MB
- Calculate the size of the angle between TB and the base ABCD
Give your answer correct to 1 decimal place

10 ABCDEFGH is a cuboid

$AB = 8\text{ cm}$, $AF = 6\text{ cm}$ & $FC = 16\text{ cm}$

- Find the length of AC
Give your answer correct to 3 significant figures
- Find the length of BC
- Find the size of the angle between the line FC and the plane ABGF
Give your answer correct to 1 decimal place



11 A pyramid has a horizontal square base ABCD with side length 230 metres

M is the midpoint of AC.

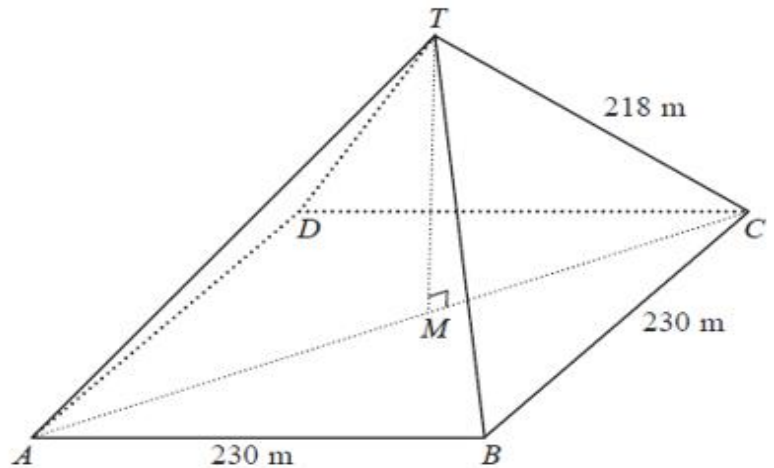
The vertex, T, is vertically above M

The slant edges of the pyramid are of length 218 metres

a) Calculate the height, MT, of the pyramid.

Give your answer correct to 3 significant figures

b) Calculate the size of angle ATC to the nearest degrees



12

Kahli has a sewing box which is a cuboid measuring 15 cm by 35 cm by 10 cm. She buys a pair of thin knitting needles which are 40 cm long.

Calculate whether a 40 cm knitting needle can fit in her sewing box. Show how you decide.

13 ABCDEF is a triangular prism

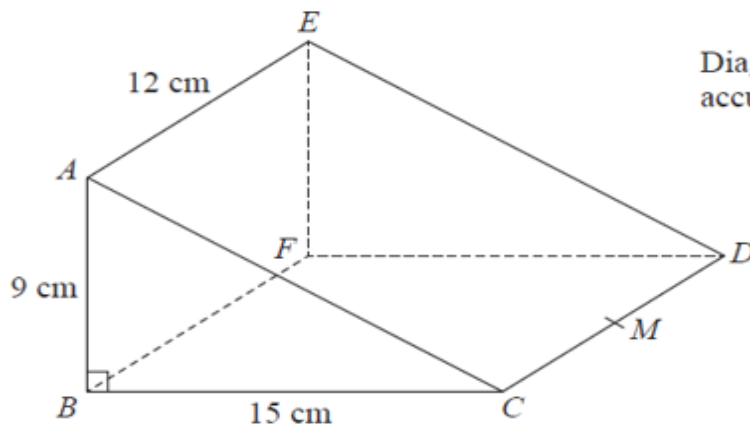
AB = 9 cm BC = 15 cm & AE = 12 cm

Angle ABC = 90°

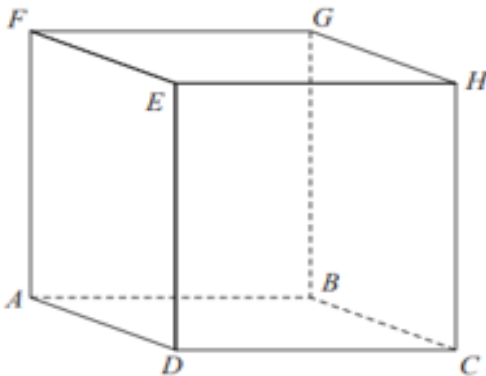
M is the midpoint of CD

work out the angle between AM and the plane BCDF

Give your answer correct to 1 decimal place



14



ABCDEFGH is a cuboid

AB = 7.3 cm, CH = 8.1 cm, Angle BCA = 48°

Find the size of the angle between AH and plane ABCD

Give your answer correct to 1 decimal place