5.6
Similar Shapes

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19 The diagram shows two cylinders, **A** and **B**.

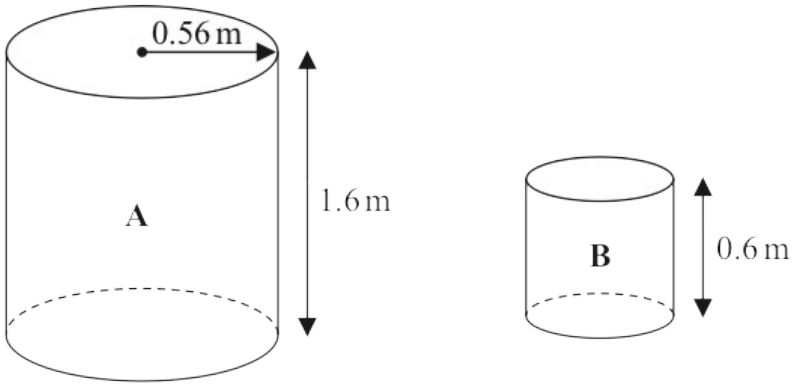


Diagram **NOT** accurately drawn

Cylinder **A** has height 1.6 m and radius 0.56 m.

(a) Work out the curved surface area of cylinder **A**.
Give your answer in m^2 correct to 3 significant figures.

..... m^2

(2)

Cylinder **B** is mathematically similar to cylinder **A**.
The height of cylinder **B** is 0.6 m.

(b) Work out the radius of cylinder **B**.

..... m

(2)

20

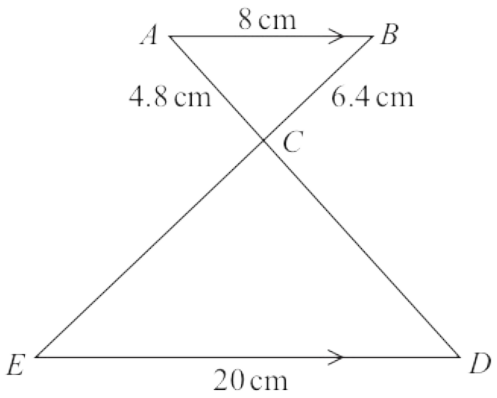


Diagram **NOT** accurately drawn

AB is parallel to *ED*.
ACD and *BCE* are straight lines.

AB = 8 cm
AC = 4.8 cm
BC = 6.4 cm
ED = 20 cm

Work out the length of *BE*.

cm

(Total for Question 20 is 3 marks)

22 The diagram shows two water towers in Kuwait.

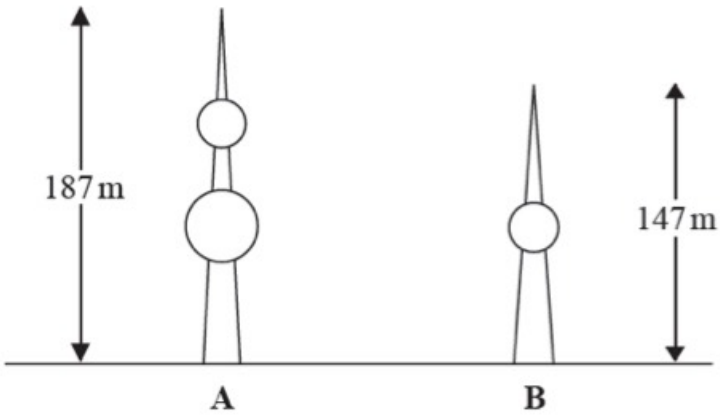


Diagram **NOT** accurately drawn

The real height of tower **A** is 187 m.
The real height of tower **B** is 147 m.

Ahmed makes a scale model of both towers.

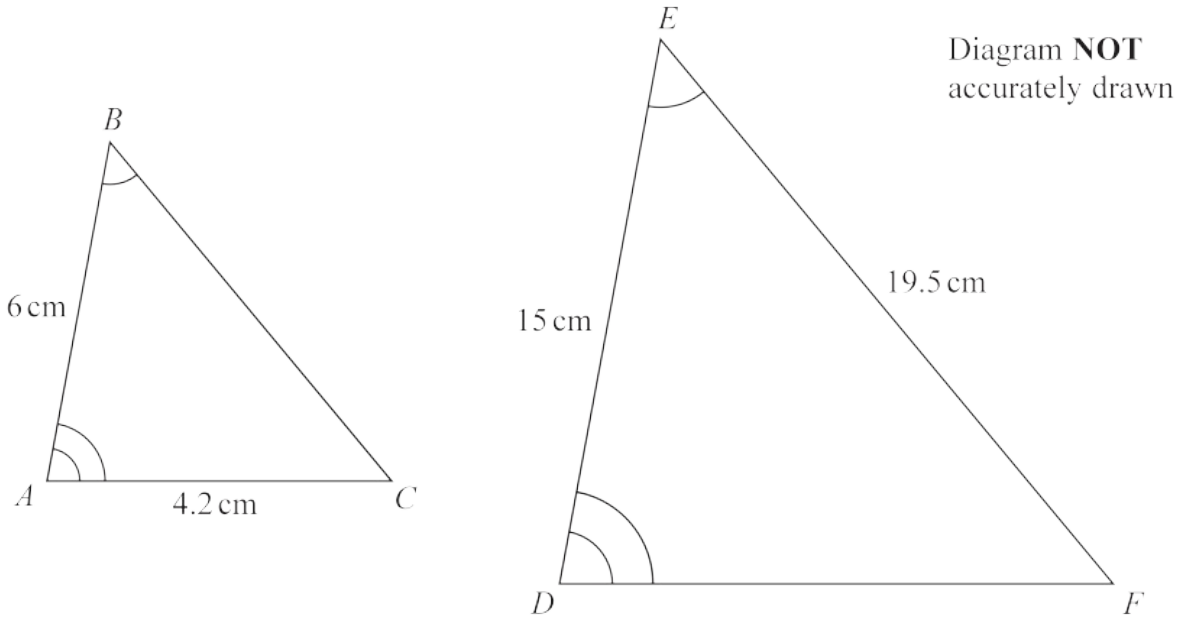
The height of tower **A** on the scale model is 90 cm.

Work out the height of tower **B** on the scale model.
Give your answer correct to the nearest centimetre.

cm

(Total for Question 22 is 3 marks)

17 ABC and DEF are similar triangles.



(a) Work out the length of DF.

..... cm

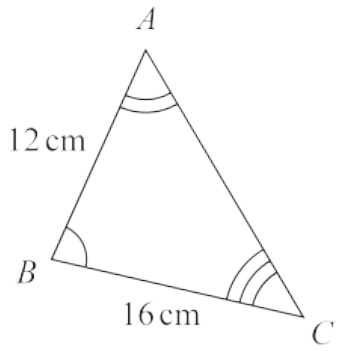
(2)

(b) Work out the length of BC.

..... cm

(2)

20 ABC and DEF are similar triangles.



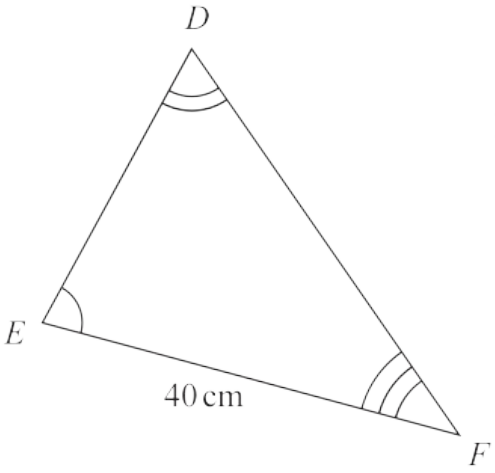


Diagram **NOT** accurately drawn

(a) Work out the length of DE.

..... cm

(2)

The area of triangle DEF is $525\,cm^2$

(b) Find the area of triangle DEF in m^2

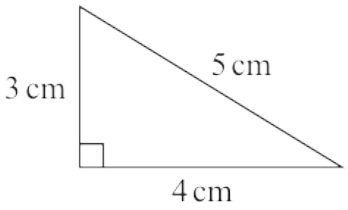
..... m^2

(2)

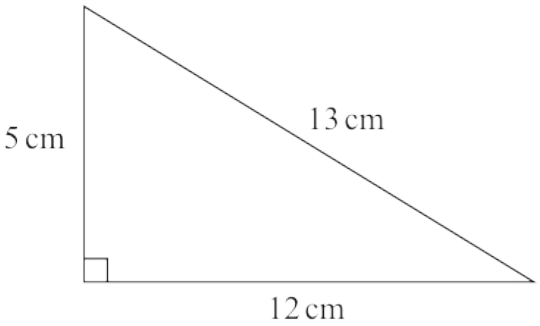
4

Here are two triangles.

Diagram **NOT** accurately drawn



Triangle **A**



Triangle **B**

(d) Are triangle **A** and triangle **B** similar triangles?
You must give a reason for your answer.

.....

.....

.....

(1)

(Total for Question 4 is 4 marks)

18

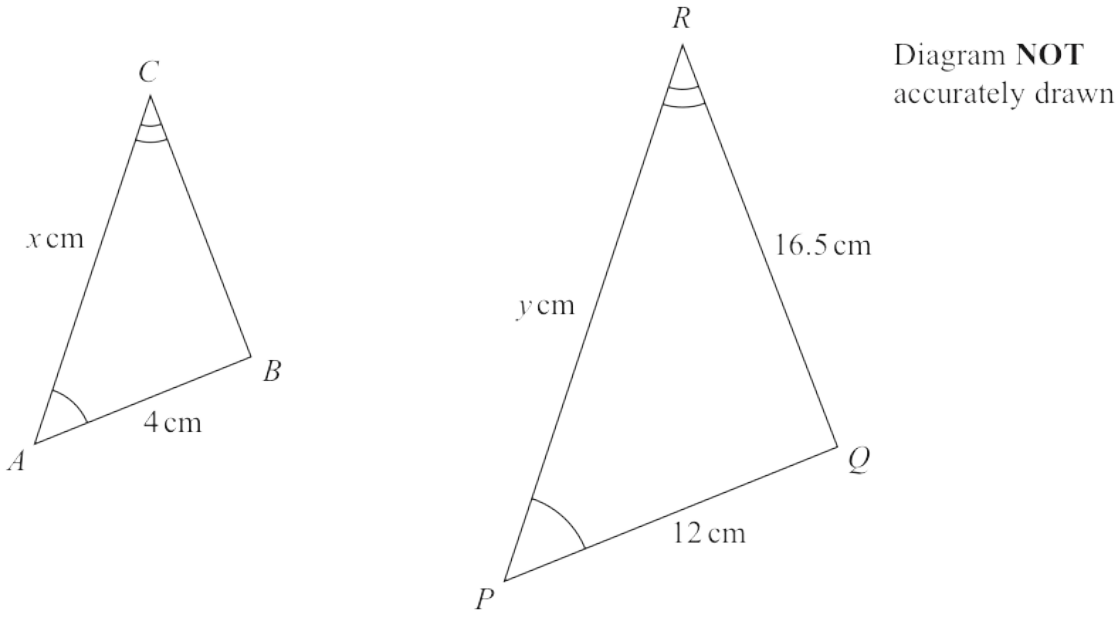


Diagram **NOT** accurately drawn

Triangle ABC is similar to triangle PQR

$AB = 4$ cm $PQ = 12$ cm $RQ = 16.5$ cm $AC = x$ cm $PR = y$ cm

(a) Calculate the length of BC

..... cm

(2)

(b) Write down an expression for y in terms of x

$y =$ .....

(1)