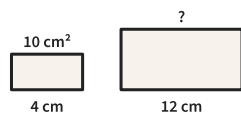


Similar shapes, area and volume



1

The two rectangles are similar.
Find the area of the larger rectangle.

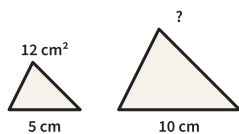


length scale factor $12 \div 4 = 3$
 area scale factor $3^2 = 9$
 area $\square \times \square = \square \text{ cm}^2$

Answer _____

2

The two triangles are similar. Find the area of the larger triangle.

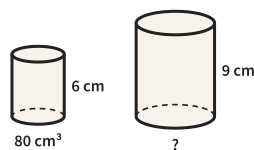


length scale factor $10 \div 5 = 2$
 area scale factor $\square^2 = \square$
 area $\square \times \square = \square \text{ cm}^2$

Answer _____

3

The two cylinders are similar.
Find the volume of the larger cylinder.

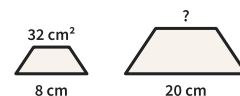


length scale factor $\square \div \square = \square$
 volume scale factor $\square^3 = \square$
 volume $\square \times \square = \square \text{ cm}^3$

Answer _____

4

The two trapeziums are similar.
Find the area of the larger trapezium.

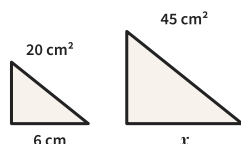


area $\square \times \square = \square \text{ cm}^2$

Answer _____

5

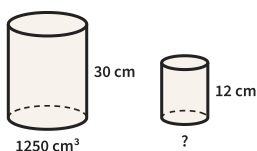
The two triangles are similar, with areas of 20 cm^2 and 45 cm^2 . Find the length marked x .



Answer _____

6

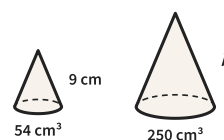
Two similar vases are 30 cm and 12 cm tall. The larger holds 1250 cm^3 . How much does the smaller hold?



Answer _____

7

Two similar cones have volumes of 54 cm^3 and 250 cm^3 . The smaller cone is 9 cm tall. How tall is the larger cone?



Answer _____

8

Two similar solids have surface areas of 36 cm^2 and 81 cm^2 . The smaller has a volume of 40 cm^3 . Find the volume of the larger.

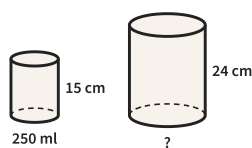
Answer _____

Similar shapes, area and volume *further practice*



9

Two similar bottles are 15 cm and 24 cm tall. The smaller holds 250 ml. How much does the larger hold?



Answer _____

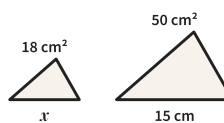
10

A photo 10 cm wide and 15 cm tall is enlarged so that its area is 4 times as big. Find the size of the enlarged photo.

Answer _____

11

Two similar triangles have areas of 18 cm^2 and 50 cm^2 . The base of the larger is 15 cm. Find the base of the smaller.



Answer _____

12

A statue needs 0.6 litres of paint to cover it. A similar statue is 3 times as tall. How much paint does it need?

Answer _____

13

Two similar cones have volumes of 128 cm^3 and 54 cm^3 . The curved surface of the larger has an area of 96 cm^2 . Find the curved surface area of the smaller.

Answer _____

14

Two similar boxes of chocolates are 8 cm and 12 cm long. The small box holds 200 g and costs £1.60. The large box costs £5. Which is better value?

Answer _____

15

A cone 12 cm tall has a volume of 320 cm^3 . The top 4 cm is cut off, leaving a frustum. Find the volume of the frustum to 1 decimal place.

Answer _____

16

One box is twice as long, twice as wide and twice as tall as a similar box that holds 3 litres. Mia says it holds 6 litres. Explain her mistake and find the right amount.

Answer _____