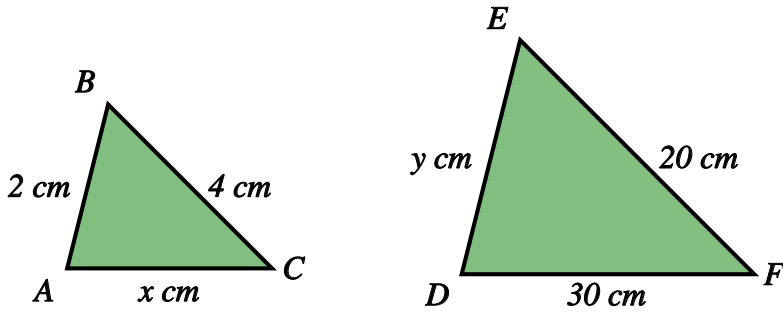


Areas and Volumes of similar shapes

Name: _____ Class: _____ Date: _____

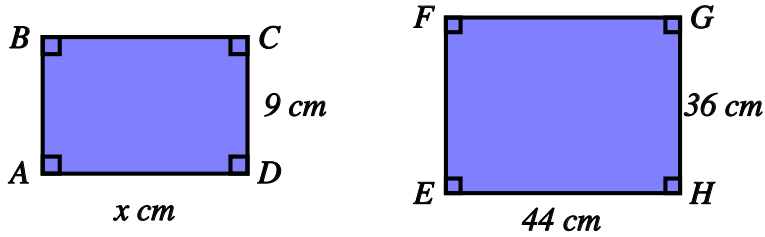
Mark / 12 %

1) Triangle ABC is similar to triangle DEF.



Find a) x b) y

2) Find the missing length, x , in rectangle ABCD shown below

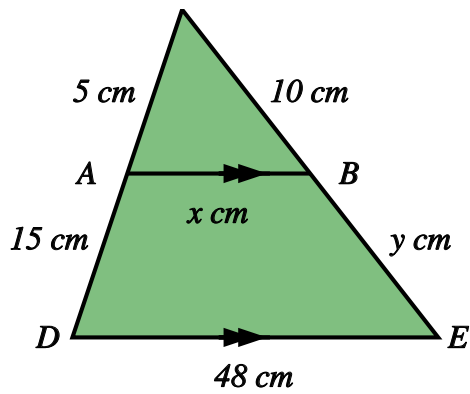


[1]

[1]

3) Find the missing lengths, x and y , in the picture below

[1]

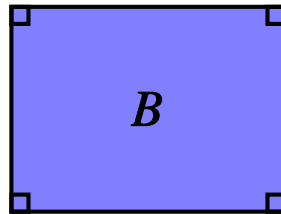
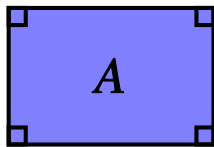


4) The two rectangles, A and B, are mathematically similar.

[1]

The lengths in B are twice the lengths in A.

The area of A is 14 cm^2 . Find the area of B.

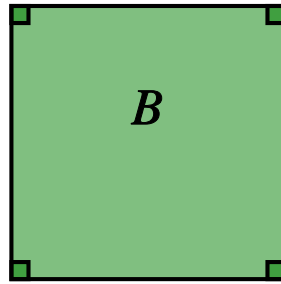
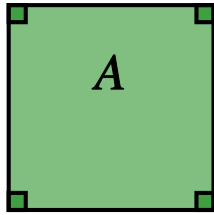


5) The two squares, A and B, are mathematically similar.

[1]

The lengths in B are twice the lengths in A.

The area of B is 40 cm^2 . Find the area of A.



6) The two squares, X and Y, are mathematically similar.

[1]

The areas of X and Y are 17 cm^2 and 272 cm^2 , respectively.

The length of X is 5 cm. Find the corresponding length of Y.

7) The two squares, X and Y, are mathematically similar.

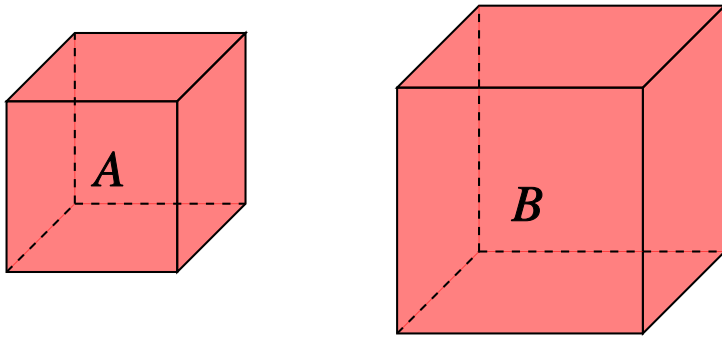
[1]

The areas of X and Y are 19 cm^2 and 304 cm^2 , respectively.

The length of Y is 40 cm. Find the corresponding length of X.

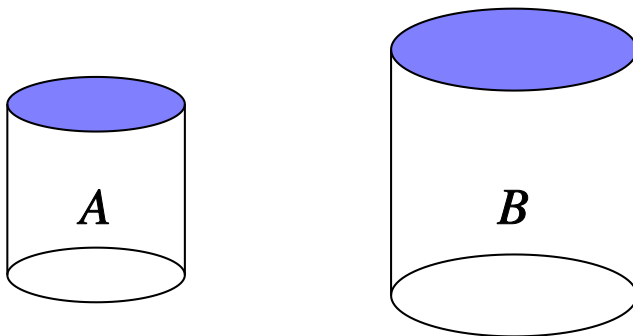
8) Two cubes, A and B, are mathematically similar.
The height of B is triple the corresponding height of A.
The surface area of A is 19 cm^2 . Find the surface area of B.

[1]



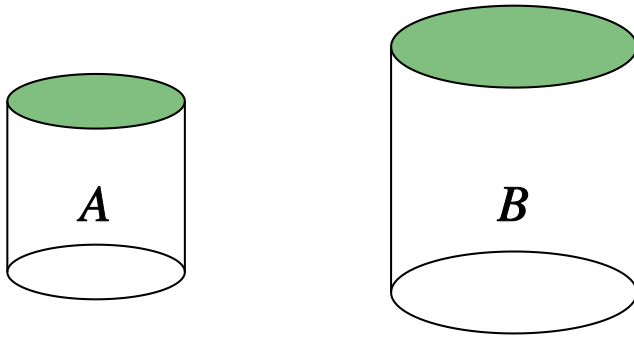
9) Two cylinders, A and B, are mathematically similar.
The height of B is twice the corresponding height of A.
The volume of A is 13 cm^3 . Find the volume of B.

[1]



10) Two cylinders, A and B, are mathematically similar.
The height of B is twice the corresponding height of A.
The volume of B is 120 cm^3 . Find the volume of A.

[1]



11) Two spheres, A and B, are mathematically similar.
The volumes of A and B are 11 cm^3 and 297 cm^3 , respectively.
The radius of A is 6 cm. Find the corresponding radius of B.

[1]

12) Two cubes, A and B, are mathematically similar.
The volumes of A and B are 17 cm^3 and 136 cm^3 , respectively.
The height of B is 18 cm. Find the corresponding height of A.

[1]

Solutions for the assessment Areas and Volumes of similar shapes

1) $x = 6 \text{ cm}$, $y = 10 \text{ cm}$

2) $x = 11 \text{ cm}$

3) $x = 12 \text{ cm}$, $y = 30 \text{ cm}$

4) Area = 56 cm^2

5) Area = 10 cm^2

6) length of Y = 20 cm

7) length of X = 10 cm

8) Surface area of B = 171 cm^2

9) Volume of B = 104 cm^3

10) Volume of A = 15 cm^3

11) radius of B = 18 cm

12) height of A = 9 cm