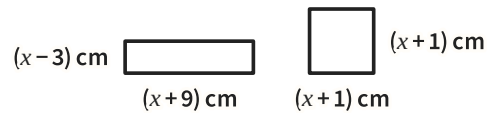


Geometry Puzzles with Algebra

1

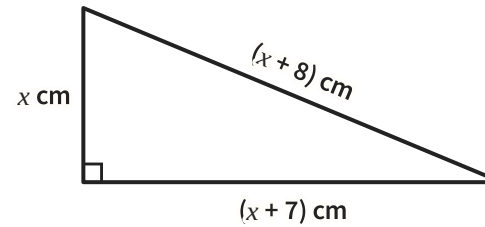
The rectangle and the square have the same area. Find the value of x .



$x =$ _____

2

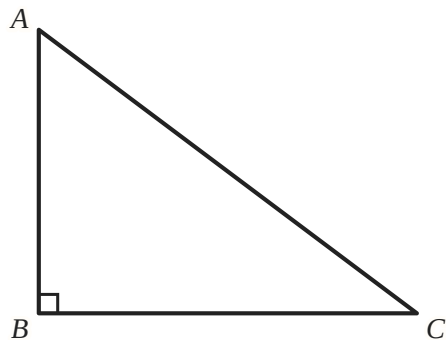
Find the perimeter of the triangle.



Perimeter = _____

3

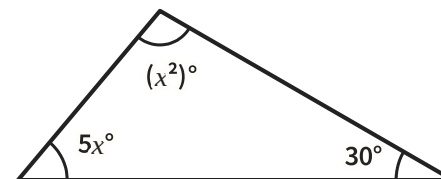
Triangle ABC has a right angle at B . $AB : BC = 3 : 4$. The area of the triangle is 96 cm^2 . Find its perimeter.



Perimeter = _____

4

Find the size of the largest angle in the triangle.

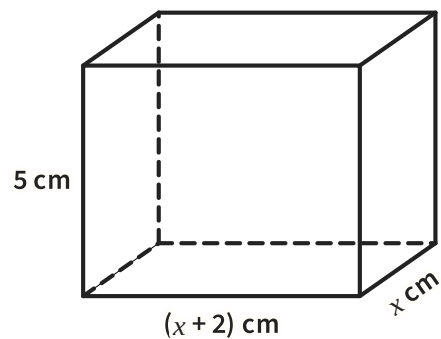


Largest angle = _____

Geometry Puzzles with Algebra

5

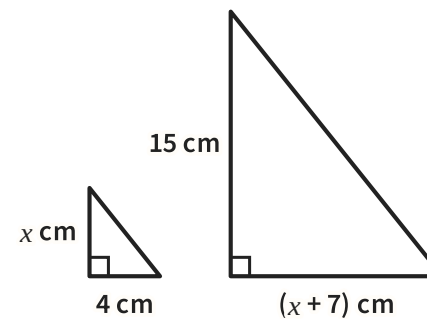
The volume of the cuboid is 120 cm^3 . Find its surface area.



Surface area = _____

6

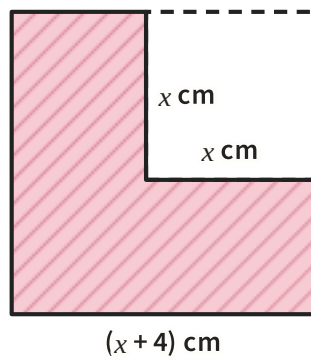
The two triangles are similar. Find the value of x .



$x =$ _____

7

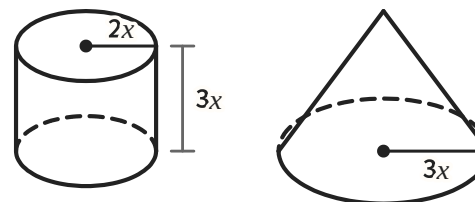
A square of side $x \text{ cm}$ is cut from the corner of a square of side $(x + 4) \text{ cm}$. The shaded shape has an area of 56 cm^2 . Find its perimeter.



Perimeter = _____

8

The cylinder has radius $2x$ and height $3x$. The cone has radius $3x$. They have the same volume. Find the height of the cone in terms of x . The volume of a cone is $\frac{1}{3}\pi r^2 h$.



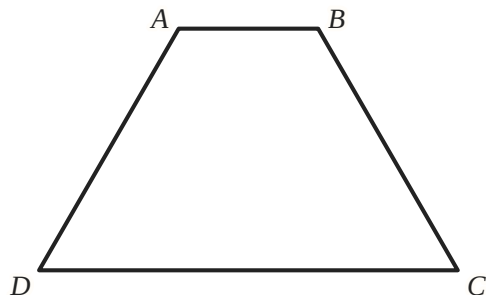
Height = _____

Geometry Puzzles with Algebra *further practice*

9



$ABCD$ is an isosceles trapezium with $AB : BC : CD = 1 : 2 : 3$ and a perimeter of 48 cm. Find its area as a surd.

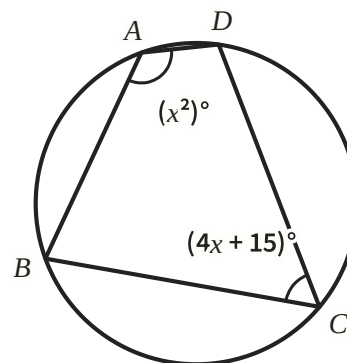


Area = _____

10



$ABCD$ is a cyclic quadrilateral. Find the size of angle A .

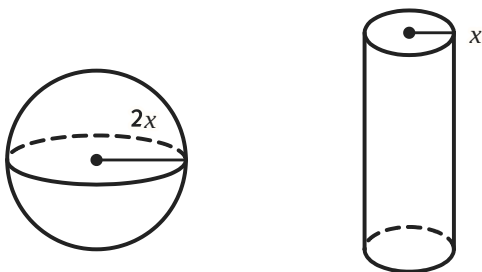


Angle A = _____

11



A solid sphere of radius $2x$ is melted down and made into a cylinder of radius x . None is lost. Find the height of the cylinder in terms of x . The volume of a sphere is $\frac{4}{3}\pi r^3$.

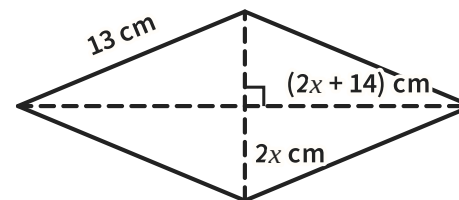


Height = _____

12



The rhombus has sides of 13 cm. Its diagonals are $2x$ cm and $(2x + 14)$ cm long. Find its area.

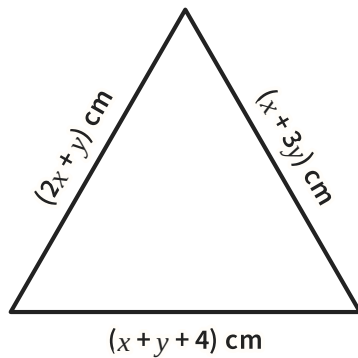


Area = _____

Geometry Puzzles with Algebra *further practice*

13

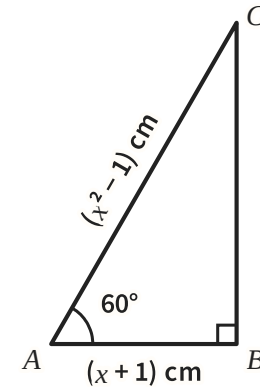
The triangle is equilateral. Find its area. Give your answer as a surd.



Area = _____

14

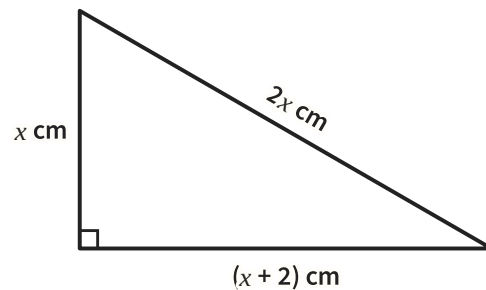
Find the length of BC . Give your answer as a surd.



$BC =$ _____

15

Find the perimeter of the triangle. Give your answer in the form $a + b\sqrt{3}$.



Perimeter = _____

16

Show that the triangle has a right angle for every positive value of x .

