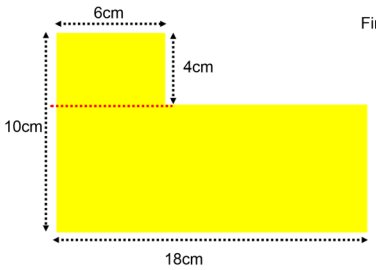
Lots of SHAPE 5 ANSWERS



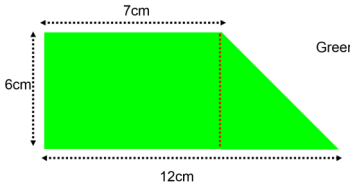
Find the area

There are other ways to find the total area but you will get the same answer.

Small rectangle = 6x4 = 24cm²

Big rectangle = 18x6 = 108cm²

Total area = 132cm²



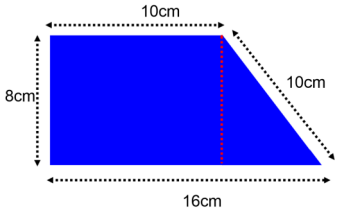
Green area?

There are other ways to find the total area but you will get the same answer.

Rectangle = 7x6 = 42cm²

Triangle = 5x6 ÷ 2 = 15cm²

Total area = 57 cm²



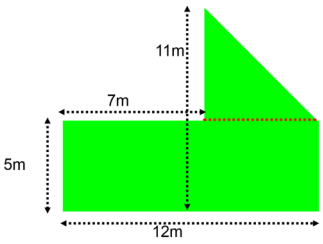
Area?

There are other ways to find the total area but you will get the same answer.

Rectangle = 8x10 = 80cm²

Triangle = 6x8 ÷ 2 = 24cm²

Total area = 104 cm²



There are other ways to find the total area but you will get the same answer.

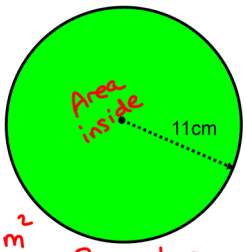
Big Rectangle = 12x5 = 60m²

Triangle = 5x6 ÷ 2 = 15m²

Total area = 75 m²

Find the area of this circle. Give your answer to 1 decimal place.

(Use π button or 3.14)



$A = \pi \times r \times r$

$A = \pi \times 11 \times 11$

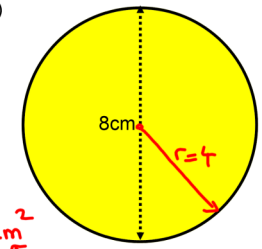
$A = 121\pi$

$A = 380.1\,cm^2$

Remember units!

Find the area of this circle. Give your answer to 1 decimal place.

(Use π button or 3.14)



diameter=8

r=4cm

$A = \pi \times r \times r$

$A = \pi \times 4 \times 4$

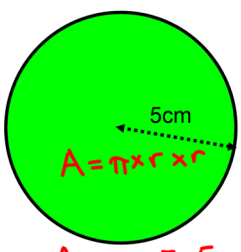
$A = 16\pi$

$A = 50.3\,cm^2$

Don't forget units!

Which shape has the greatest area? (Use π button or 3.14)

Circle

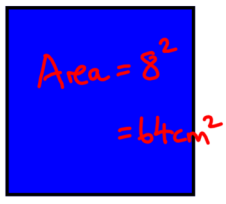


$A = \pi \times r \times r$

$A = \pi \times 5 \times 5$

$A = 78.5\,cm^2$

Square



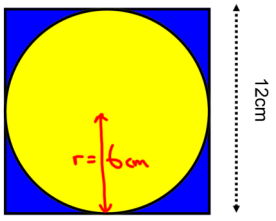
$Area = 8^2$

$= 64\,cm^2$

Ans circle has bigger area

A circle is cut out off a piece of metal. It touches all the sides.

What is the area of the metal left over? (Use π button or 3.14)



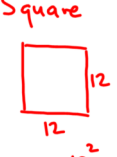
Circle

$A = \pi \times 6 \times 6$

$A = \pi \times 6^2$

$A = 113.1\,cm^2$

Square

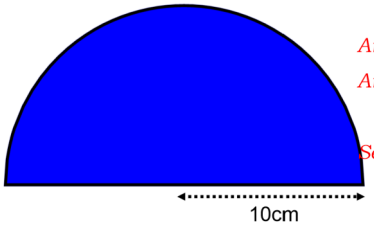


$Area = 12^2 = 144$

Blue left over = $144 - 113.1$

$= 30.9\,cm^2$

What is the area of this semi-circle? (Use π button or 3.14)

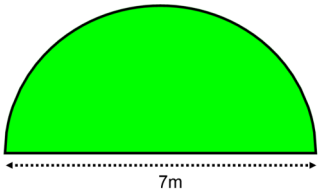


Area circle = π r²

Area circle = 314 cm²

Semi circle = 157 cm²

What is the area of this semi-circle? (Use π button or 3.14)



Area circle = π r²

Area circle = 38.5 cm²

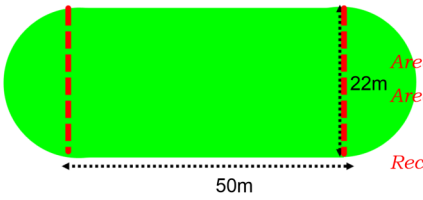
Semi circle = 19.2 cm²

7m is diameter

so then

r = 3.5

What is the area? (Use π button or 3.14)



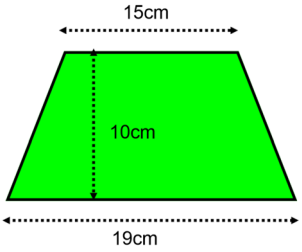
Area circle = π r²

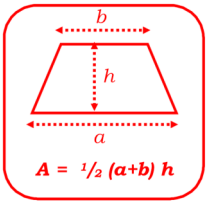
Area circle = 380 m²

Rectangle = 1100 m²

Total Area= 1480m²

What is the area of this trapezium?





A = ½ (a+b) h

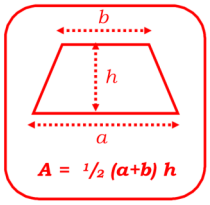
A = ½ (15+19) 10

A = ½ (34) 10

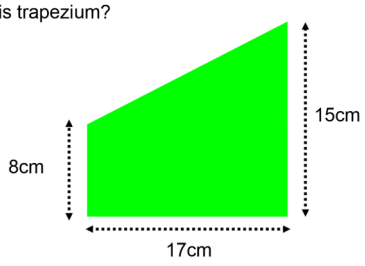
A = 170cm²

Don't forget the units!

What is the area of this trapezium?



A = ½ (a+b) h



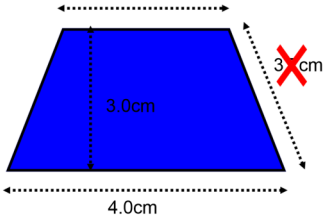
A = ½ (8+15) 17

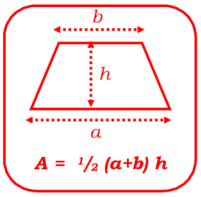
A = ½ (23) 17

A = 195.5cm²

Don't forget the units!

What is the area of this trapezium?





A = ½ (a+b) h

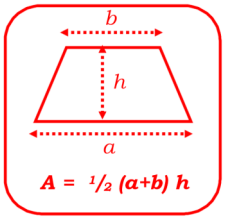
A = ½ (3.4 + 4) 3

A = ½ (7.4) 3

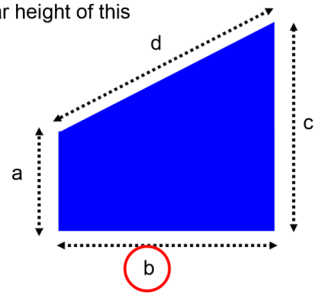
A = 11.1cm²

Don't forget the units!

Which is the perpendicular height of this trapezium?



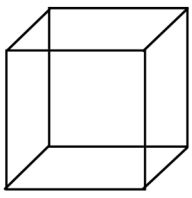
A = ½ (a+b) h



This has been turned on the side.

A solid gold cube has side length of 3.7cm.

What is the volume of this gold cube?



Volume = length³

Volume = 3.7³

Volume = 50.653 cm³

Don't forget the units

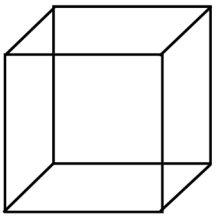
A solid gold cube has side length of 8cm.

What is the volume of this gold cube?

Volume = length^3

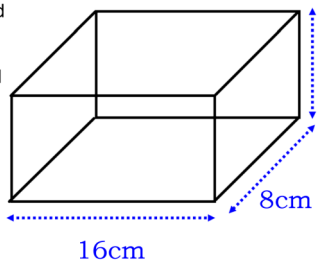
Volume = 8^3

Volume = 512 cm^3



It is melted down to make a cuboid like the picture.

What is the height of the new solid gold cuboid?



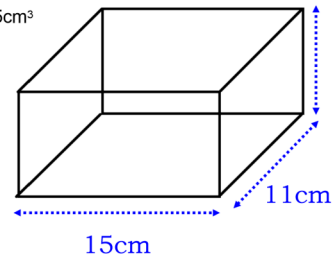
V = l w h

512 = 16 x 8 x h

4cm = h

The volume of this cuboid is 1485cm^3

What is the height ?



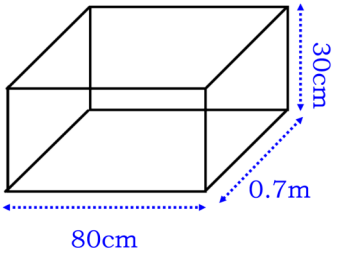
V = l w h

1485 = 15 x 11 x h

9cm = h

Find the volume of this cuboid.

State the correct units.



Volume = l x w x h

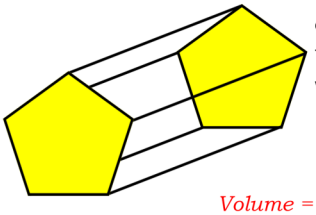
Volume = 0.8 x 0.7 x 0.3

Volume = 0.168 m^3

Volume = l x w x h

Volume = 80 x 70 x 30

Volume = 168000 cm^3



This prism has a cross-sectional area of 22cm^2.

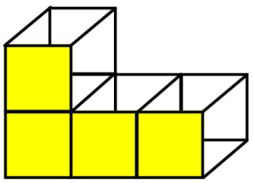
The length is 15cm.

What is the volume?

Volume = Area of cross section x h

Volume = 22 x 15

Volume = 330 cm^3



Each square is 49cm^2

Yellow area is 196cm^2

This prism is made up from cubes with a side length of 7cm.

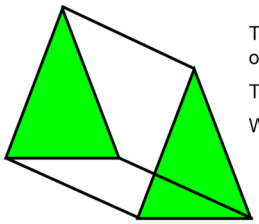
Find the yellow cross-sectional area.

Then find the volume.

Volume = Area of cross section x h

Volume = 196 x 7cm

Volume = 1372 cm^3



This prism has a cross-sectional area of 30cm^2.

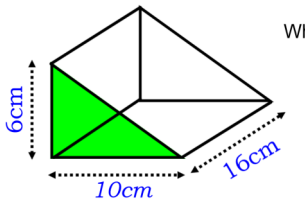
The length is 15cm.

What is the volume?

Volume = Area of cross section x h

Volume = 30 x 15

Volume = 450 cm^3



What is the volume of this prism?

Area = bh÷2

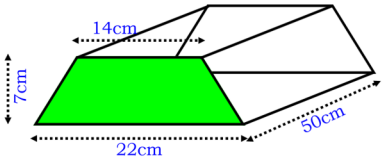
Area = 10(6)÷2

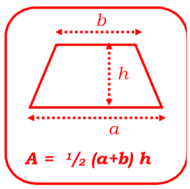
Area = 30 cm^2

Volume = Area of cross section x h

Volume = 30 x 16

Volume = 480 cm^3





Find the cross-sectional area.

Then find the volume stating the correct units.

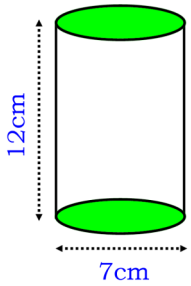
Area = $^1/_2$(14+22)7

Area = 126 cm^2

Volume = Area of cross section x h

Volume = 126 x 50

Volume = 6300 cm^3



What is the volume of this cylinder?

Use π button or π=3.14

radius r = 3.5cm

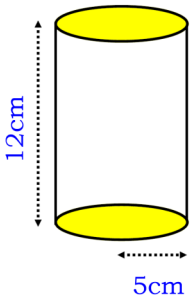
height h = 12cm

Volume = π r^2 h

= π $(3.5)^2$ 12

= 147 π cm^3

= 460 cm^3 (2sig fig)



What is the volume of this cylinder?

Use π button or π=3.14

radius r = 5cm

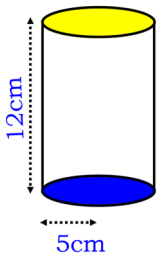
height h = 12cm

Volume = π r^2 h

= π $(5)^2$ 12

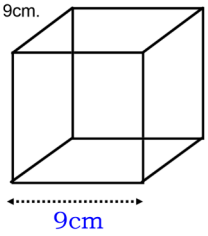
= 300 π cm^3

= 940 cm^3 (2sig fig)



Which shape has the bigger volume?

Cylinder or Cube of side length 9cm.



Volume = l^3

= 9^3

= 729 cm^3

Volume = π r^2 h

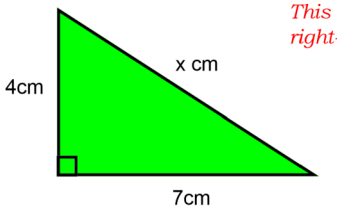
= π $(5)^2$ 12

= 300 π cm^3

= 940 cm^3 (2sig fig)

The cylinder has bigger volume

Find the value of x to 1 decimal place.



This is Pythagoras' because it is a right-angled triangle and 3 sides

$a^2 + b^2 = h^2$

$4^2 + 7^2 = x^2$

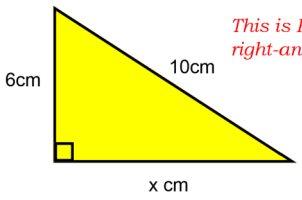
$16 + 49 = x^2$

$65 = x^2$

$\sqrt{65} = x$

Answer x=8.1 (to 1 dec pl)

Find the value of x to 1 decimal place.



This is Pythagoras' because it is a right-angled triangle and 3 sides

$a^2 + b^2 = h^2$

$x^2 + 6^2 = 10^2$

$x^2 + 36 = 100$

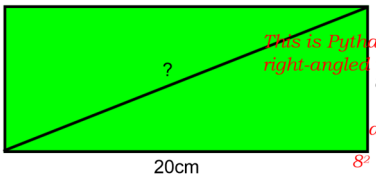
$x^2 = 100 - 36$

$x^2 = 64$

Answer x=8

This rectangle measures 20cm by 8cm.

What is the diagonal distance?



This is Pythagoras' because it is a right-angled triangle and 3 sides

$a^2 + b^2 = h^2$

$8^2 + 20^2 = x^2$

$64 + 400 = x^2$

$464 = x^2$

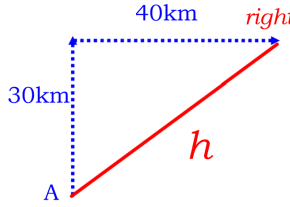
$\sqrt{464} = x$

x=21.5 (to 1 dec pl)

Ben sails from point A

He sails 30km North and then 40km East.

How far is he away from A as the crow flies?



This is Pythagoras' because it is a right-angled triangle and 3 sides

$a^2 + b^2 = h^2$

$40^2 + 30^2 = x^2$

$1600 + 900 = x^2$

$2500 = x^2$

$\sqrt{2500} = x$

Answer x=50 km