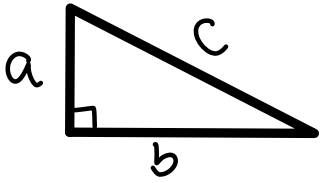
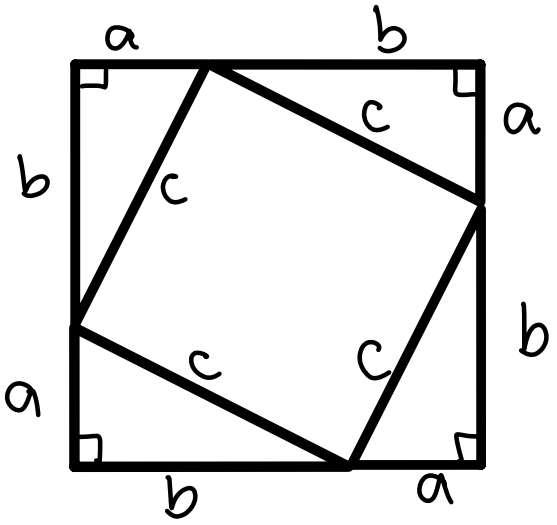
Pythagoras Theorem

By .... Kru ซี่

Pythagoras Theorem

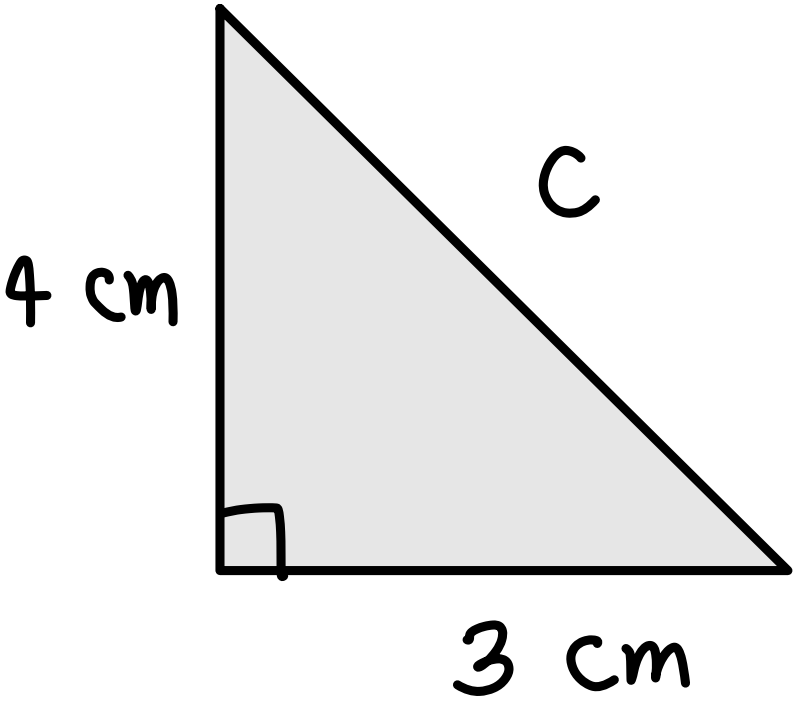
TOP Maths IGCSE

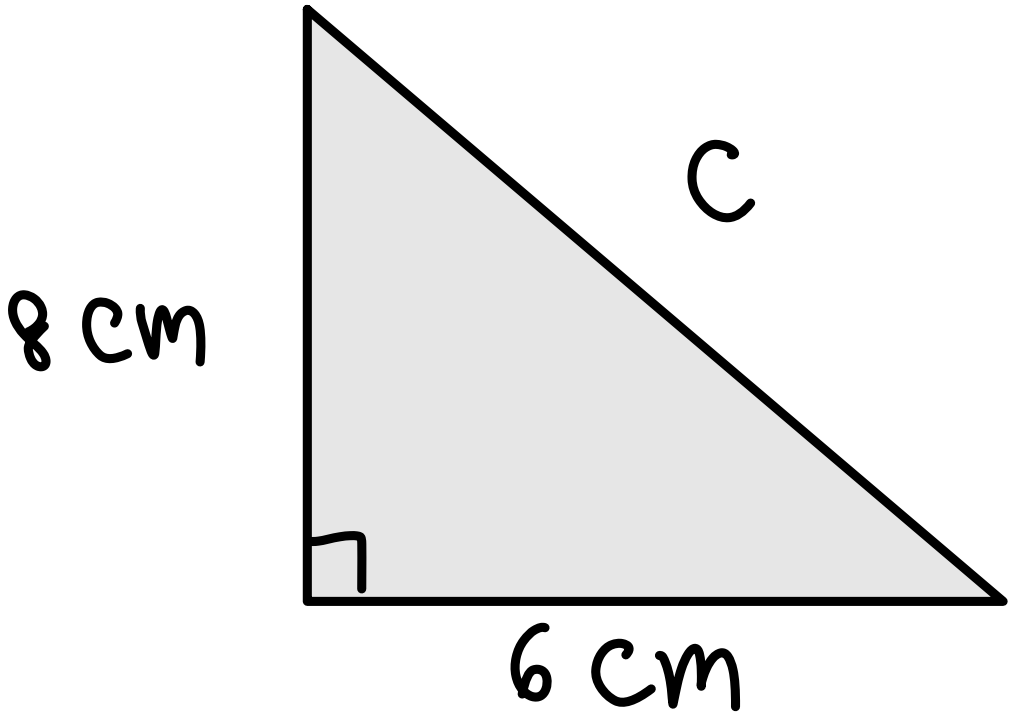


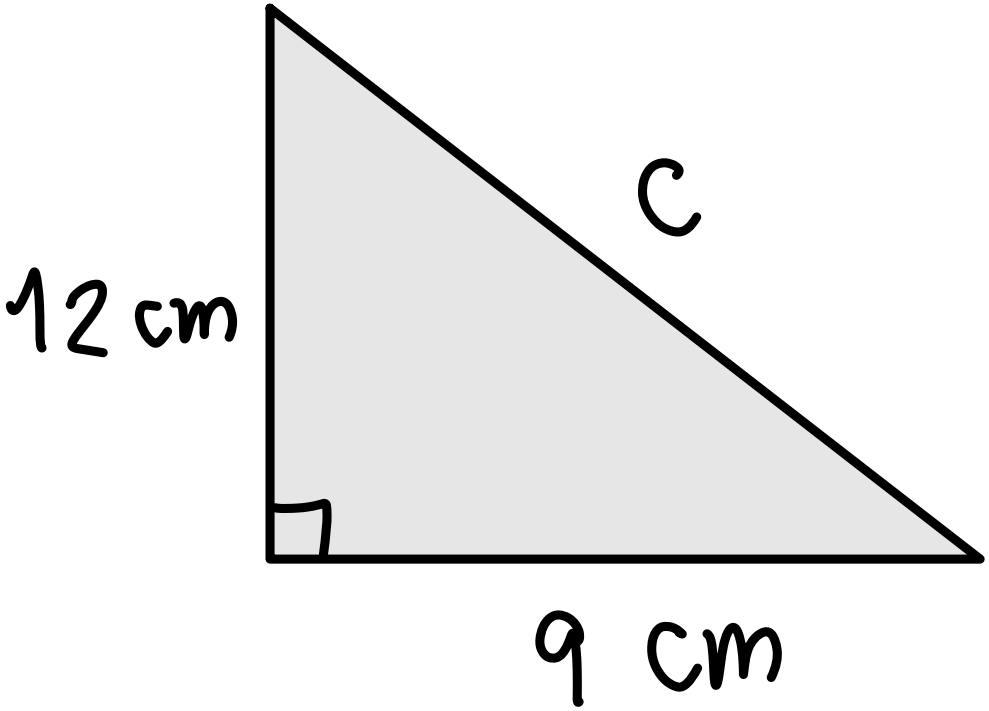


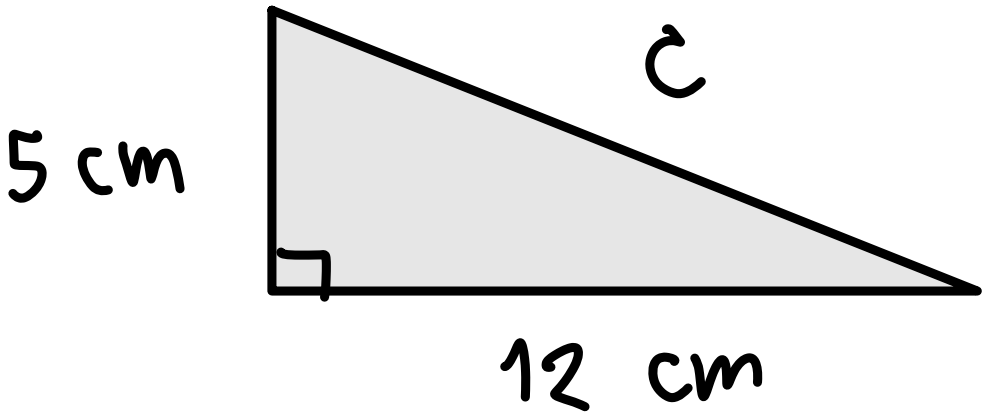
Using Pythagoras to check right angle triangle

Using Pythagoras to find the hypotenuse side




c
8 cm
6 cm

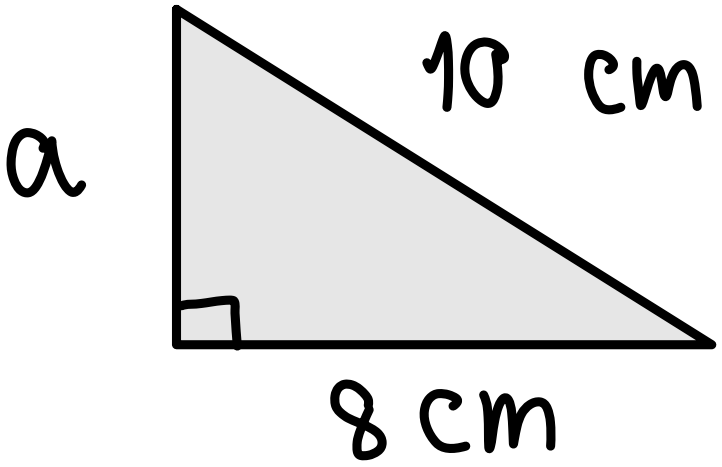

c
12 cm
9 cm

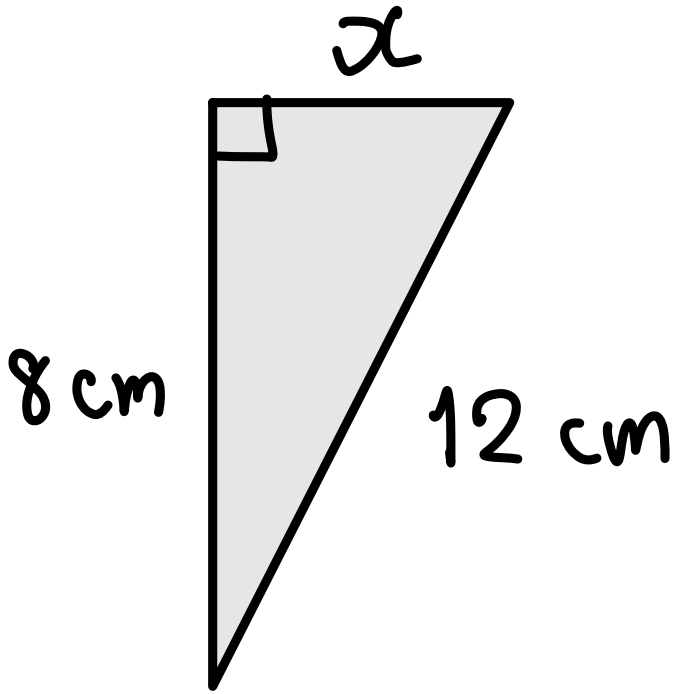

c
5 cm
12 cm

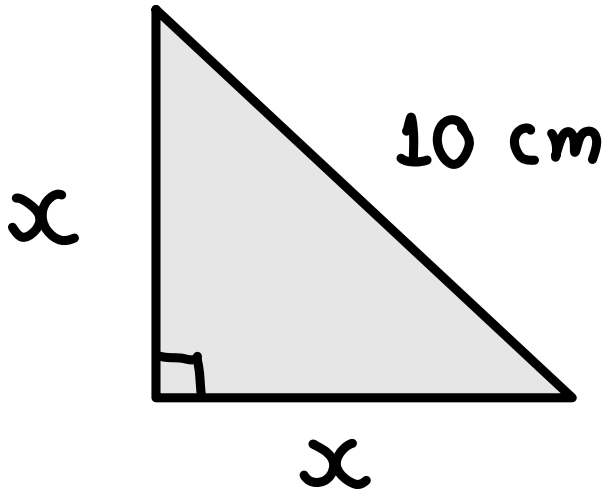
Note

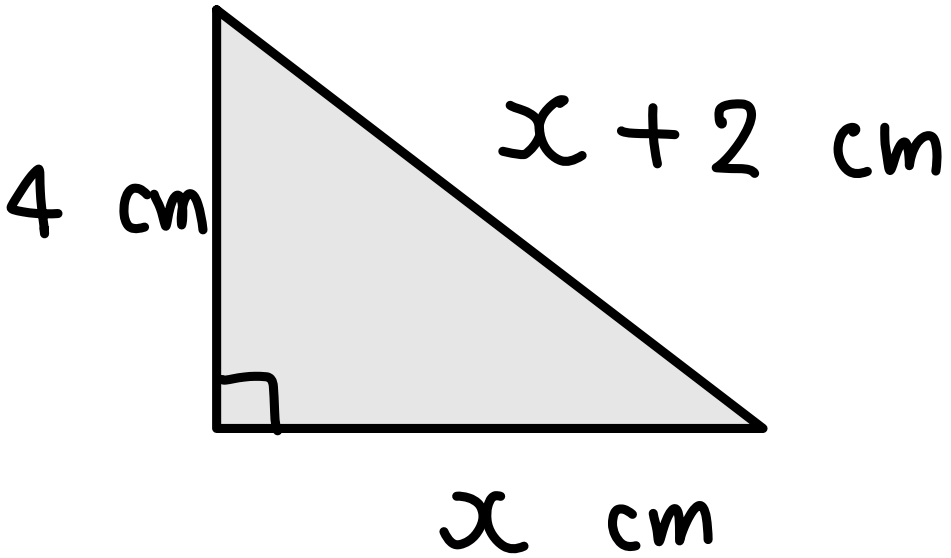
For triplets Pythagoras

Using Pythagoras to find the other side, not hypotenuse

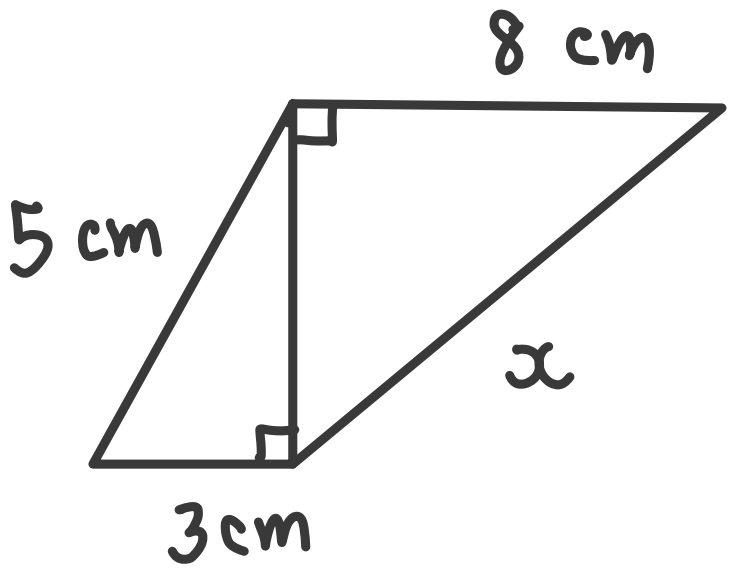



x
8 cm
12 cm

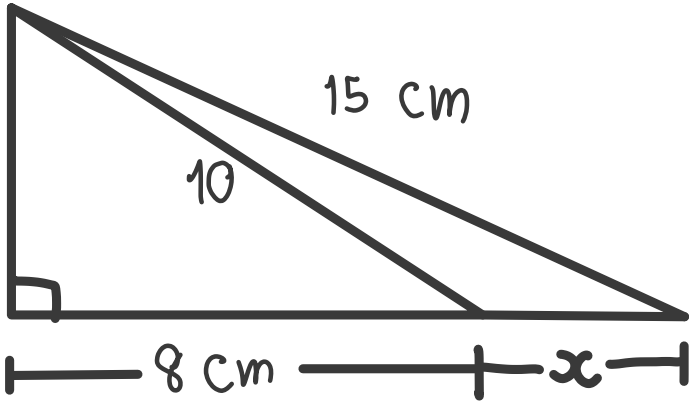

10 cm
x
x


4 cm
x + 2 cm
x cm

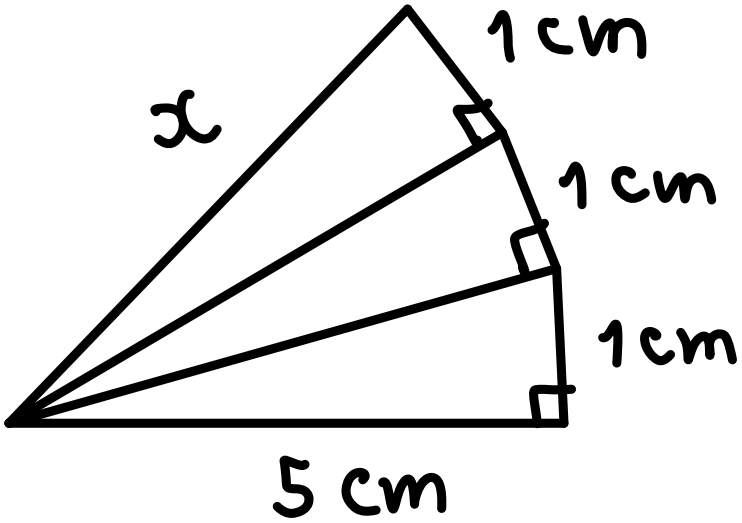
Compound triangles



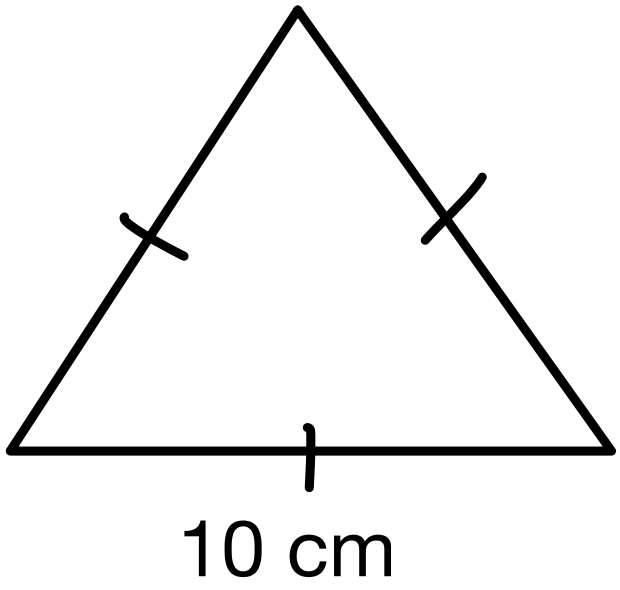
Compound triangles



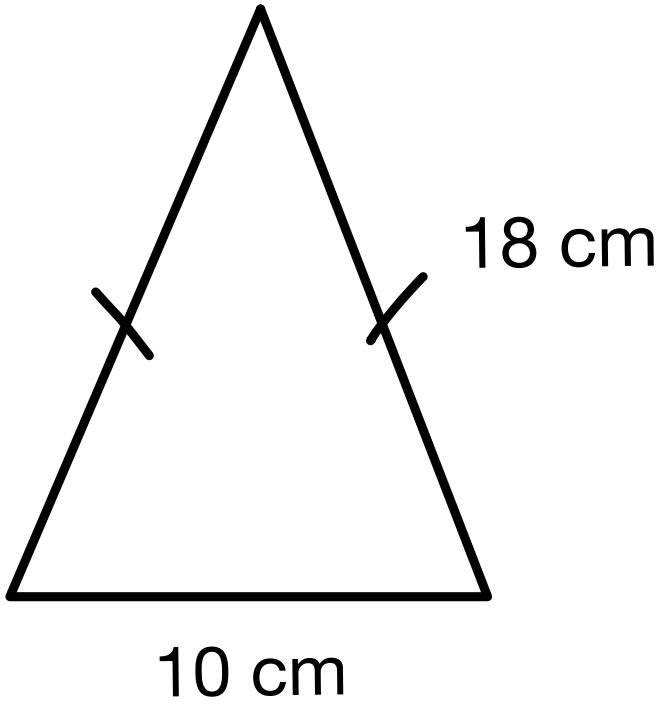
Compound triangles



Q1. Calculate the area



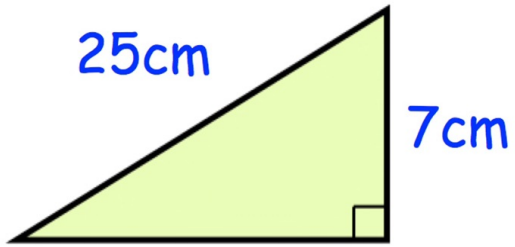
Q2. Calculate the area



Q3.

Shown is a right angle triangle.
Calculate:

(a) the perimeter of the triangle.
(b) the area of the triangle.

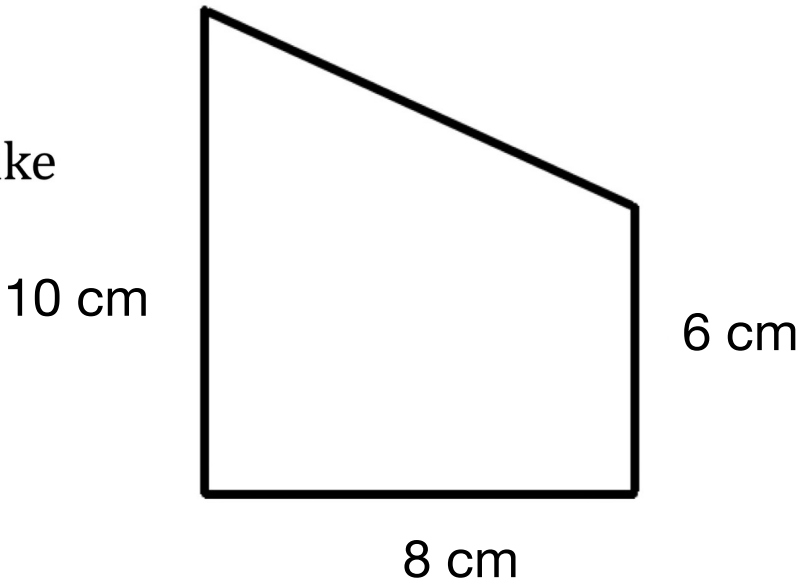


Q4. A rectangle is 20cm long and 8cm wide.
Find the length of the diagonal of the rectangle.

Q5. An airplane is flying from Redville to Leek.
The airplane flies 50 miles East and then 180 miles South.
How far is Leek from Redville directly?

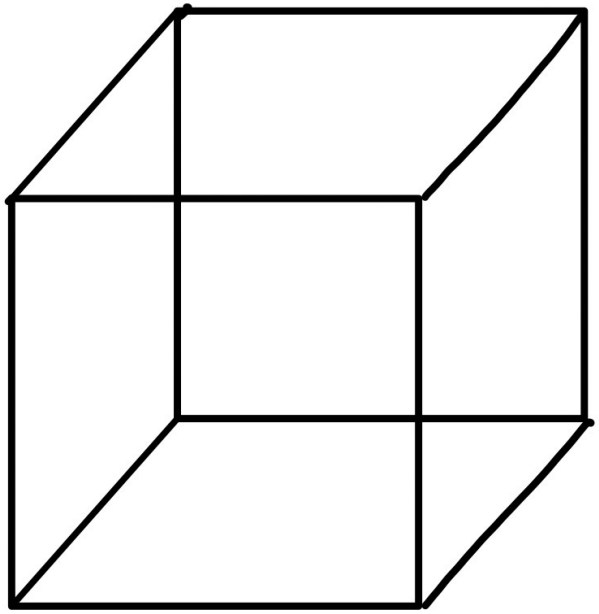
Q6. A frame is made from wire.
The frame is a trapezium
Calculate the total amount of wire needed to make the frame.

Give your answer to 1 decimal place.

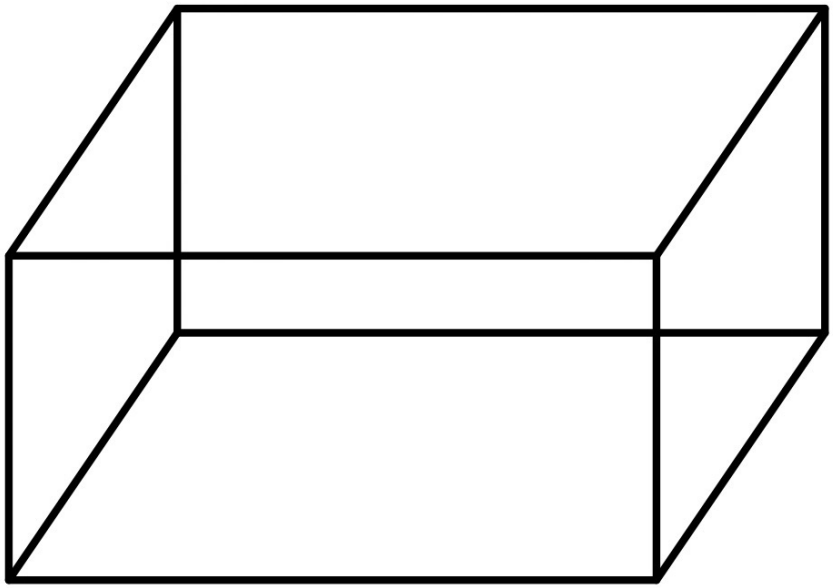


3-D Pythagoras

Cube



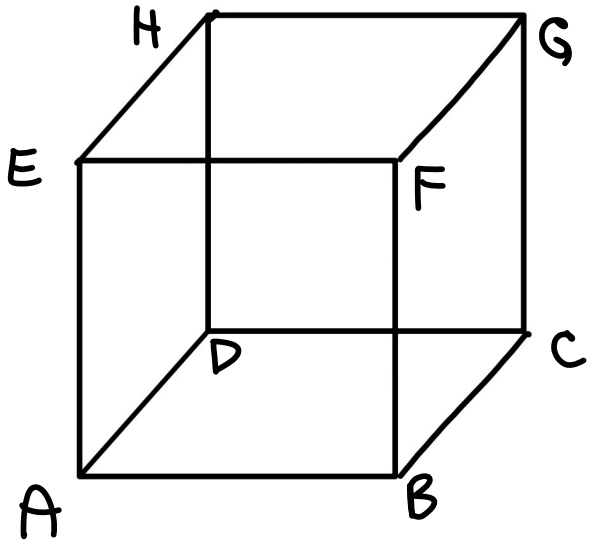
Cuboid



ABCDEFGH is a cube with side length 5cm.

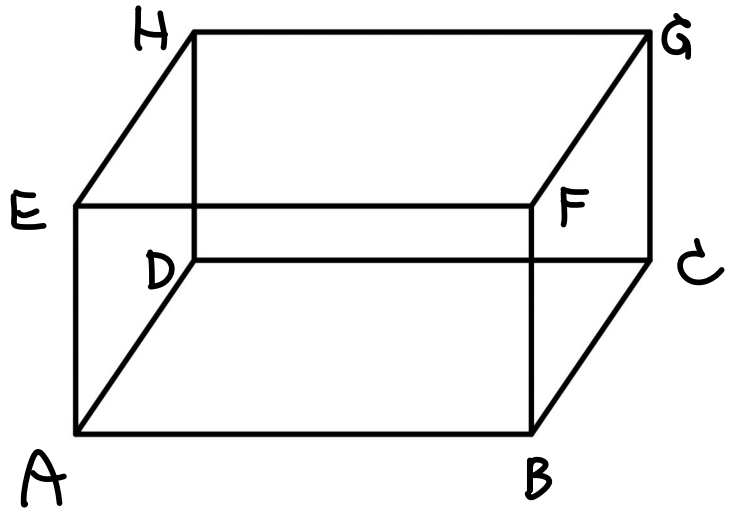
(a) Work out the length of AC

(b) Work out the length of AG



ABCDEFGH is a cuboid.

AB = 6cm, BC = 2cm and CG = 3cm.



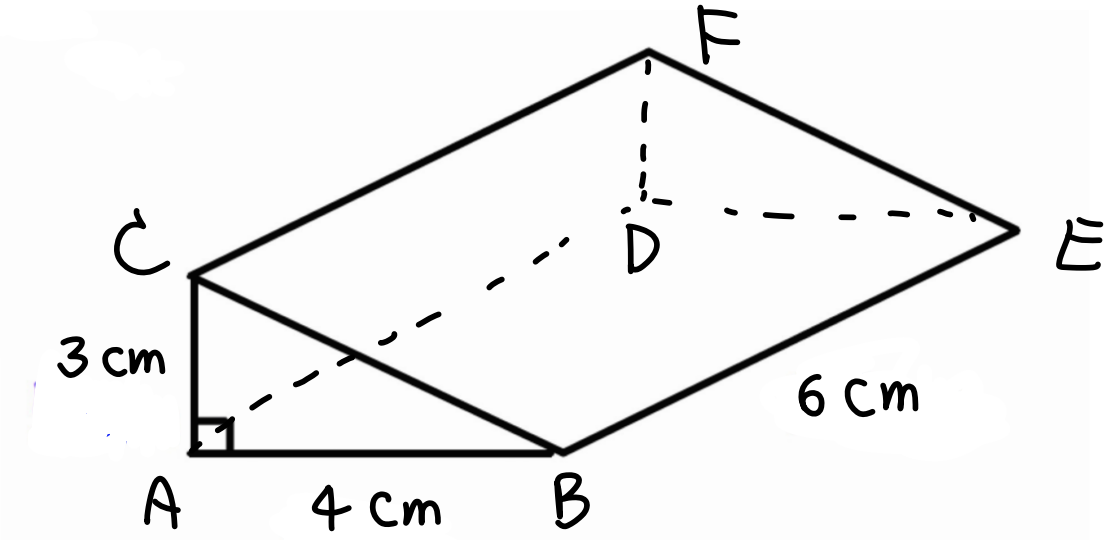
Work out the length AG

Shown is a triangular prism.
Triangle ABC is a right angle triangle.

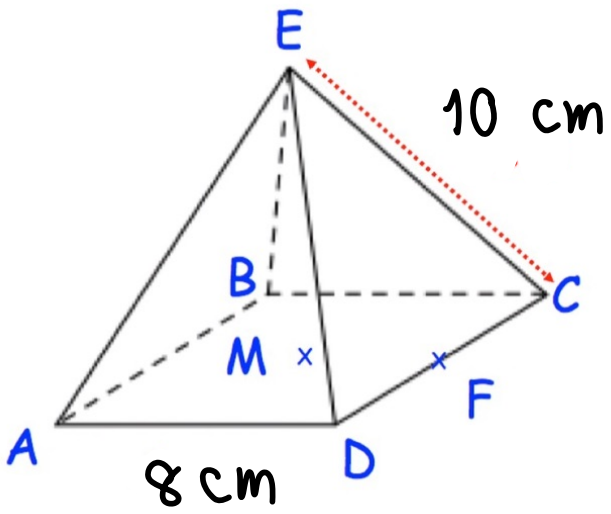
(a) Work out the length of BC

(b) Work out the length of CD

(c) Work out the length of BF

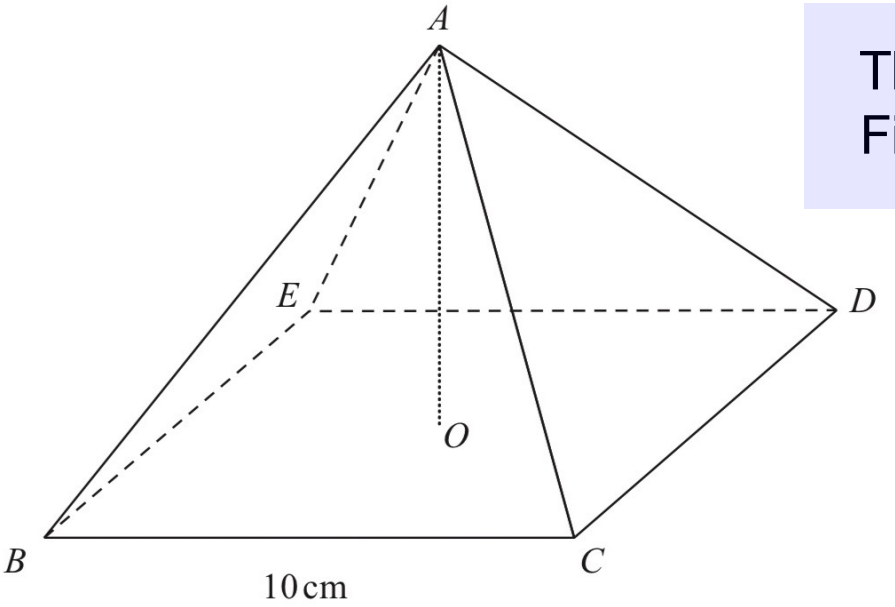


Shown is a square based pyramid ABCDE.
F is the midpoint of CD.
M is the point on the base directly below the vertex E.



Calculate the length of

(a) AC (b) AM (c) EM (d) EF



The volume of the square base pyramid is 500 cm^3.
Find the total surface area