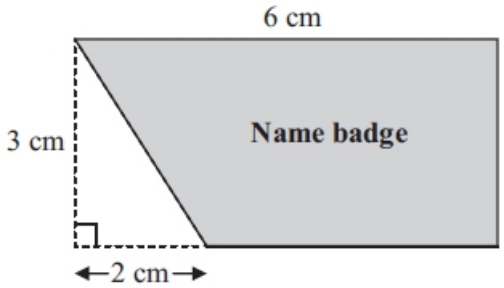
Using the Formula Sheet (Higher Tier)

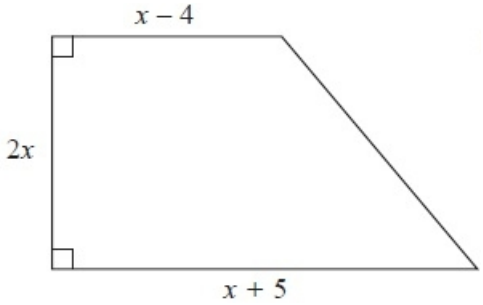
Janice cuts a triangle from a rectangular piece of metal.
She uses the rest of the metal to make a name badge.



The rectangle has length 6 cm and width 3 cm.
The right-angled triangle has base 2 cm and height 3 cm.

Work out the area of the name badge.

The diagram shows a trapezium.



All the measurements are in centimetres.

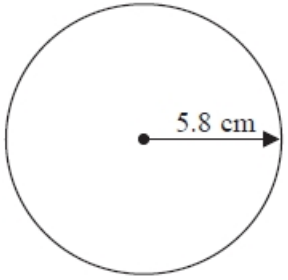
The area of the trapezium is 351 cm^2.

(a) Show that $2x^2 + x - 351 = 0$

(b) Work out the value of x.

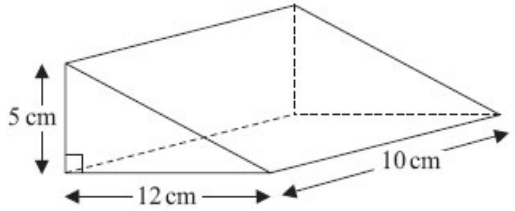
This circle has a radius of 5.8 cm.

Work out the area of the circle.
Give your answer to 1 decimal place.



Solve $3x^2 + 6x - 2 = 0$
Give your solutions correct to 2 decimal places.

Work out the volume of the triangular prism.



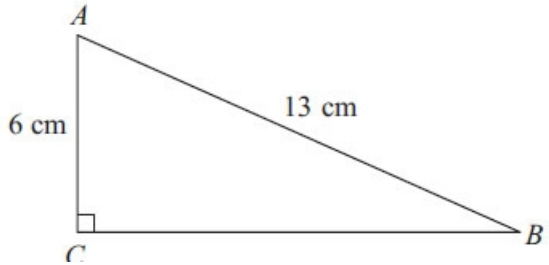
A circle has a diameter of 140 cm.

Work out the circumference of the circle.

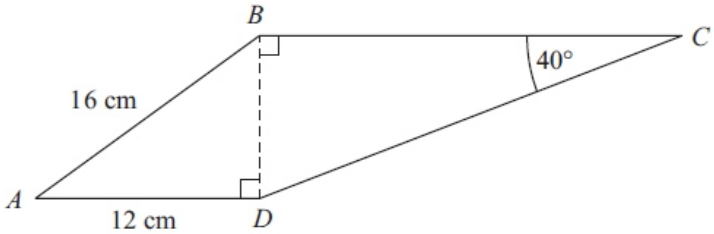
Give your answer correct to 3 significant figures.

ABC is a right-angled triangle.
AC = 6 cm *AB* = 13 cm

Work out the length of *BC*.
Give your answer correct to 3 significant figures.



The diagram shows a quadrilateral *ABCD*.



AB = 16 cm.

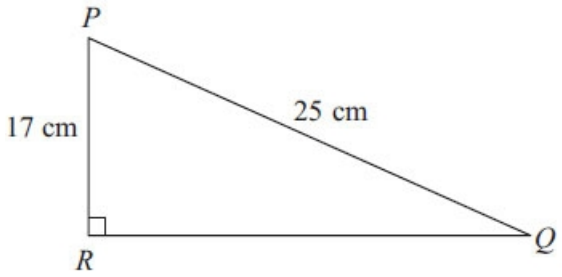
AD = 12 cm.

Angle *BCD* = 40°.
Angle *ADB* = angle *CBD* = 90°.

Calculate the length of *CD*. Give your answer correct to 3 significant figures.

PQR is a right-angled triangle.
PR = 17 cm *PQ* = 25 cm

Work out the size of angle *RPQ.*
Give your answer correct to 1 decimal place.

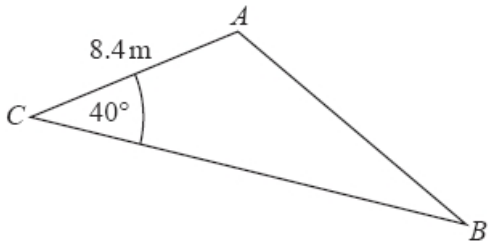


ABC is a triangle.

AC = 8.4m
Angle *ACB* = 40°

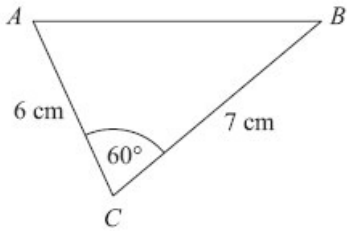
The area of the triangle = 100m^2.

Work out the length of *AB*.
Give your answer correct to 3 significant figures.
You must show all your working.



ABC is a triangle.

Work out the area of triangle *ABC*.
Give your answer correct to 3 significant figures.



Work out the length of the side *AB*. Give your answer correct to 3 significant figures.

There are yellow discs, red discs, blue discs and green discs in a bag.
Dinesh is going to take at random a disc from the bag.

The table shows each of the probabilities that Dinesh will take a red disc, or a blue disc, or a green disc.

Colour	yellow	red	blue	green
Probability		0.40	0.25	0.15

Work out the probability that he will take a yellow disc.

Franz invests £1500 at a rate of $3\frac{1}{2}$% per annum compound interest.

Work out the value of his investment after 2 years.

Charlie invests £1200 at 3.5% per annum compound interest.

Work out the value of Charlie's investment after 3 years.