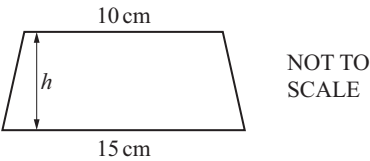


13 (a) The surface area of a solid cube is 121.5 cm^2 .
Calculate the length of the side of the cube.

(b) cm [3]



The area of the trapezium is 106.25 cm^2 .

(i) Calculate the height of the trapezium.

..... cm [2]

(ii) Convert 106.25 cm^2 into m^2 .

..... m^2 [1]

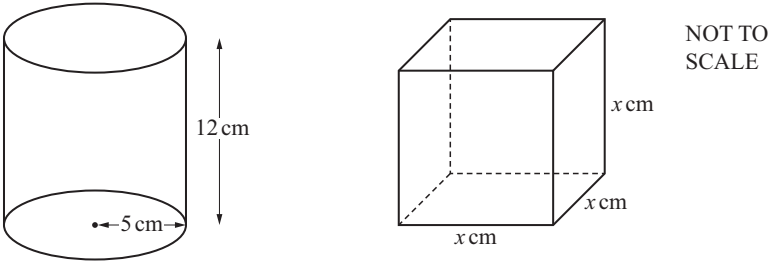
14 A bag contains red, yellow, blue and green cards.
The table shows the probability of taking a red card and a yellow card.
The probability of taking a blue card or a green card is in the ratio blue : green = 5 : 2 .

Complete the table.

Colour	red	yellow	blue	green
Probability	0.53	0.19		

[3]

19 The diagram shows a cylinder and a cube.



The cylinder has the same volume as the cube.
Find the value of x .

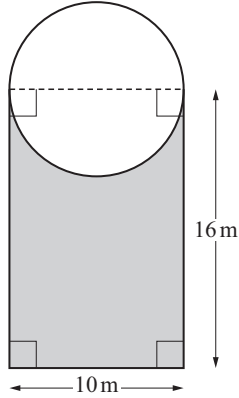
$x =$ [3]

20 A town has two cinemas, Movie Scene and Flix.
The table shows the mean and range of the audience numbers.

	Mean	Range
Movie Scene	83	52
Flix	105	25

(a) Which cinema has higher audience numbers on average?
Give a reason for your choice.
Cinema because
..... [1]

(b) Which cinema has greater variation in its audience numbers?
Give a reason for your choice.
Cinema because
..... [1]



NOT TO
SCALE

The diagram shows a garden.
The garden has a circular pond and the shaded area is grass.
The width of the grass area is equal to the diameter of the pond.

(a) Find the area of the pond.

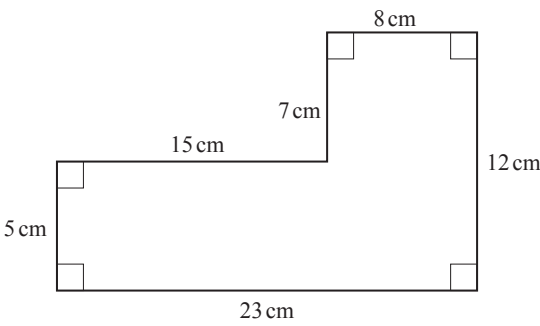
..... m² [2]

(b) Find the area of the grass.

..... m² [2]

(c) Find the percentage of the garden that is grass.

..... % [2]



NOT TO
SCALE

Find the area of the shape.

..... cm² [2]

- 23 (a) Jo buys a candle for \$3.20 .
She sells the candle for \$4.64 .
- Find the percentage profit on the candle.

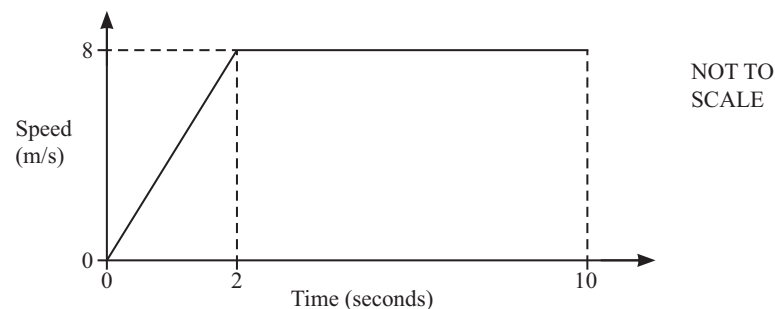
..... % [2]

- (b) The candle is in the shape of a cone.
The volume of the candle is 900 cm^3 .
The height of the candle is 8 cm.

Calculate the radius of the candle.

..... cm [3]

18



The diagram shows part of the speed–time graph for an athlete in a race.

- (a) Calculate the distance the athlete runs in the first 10 seconds.

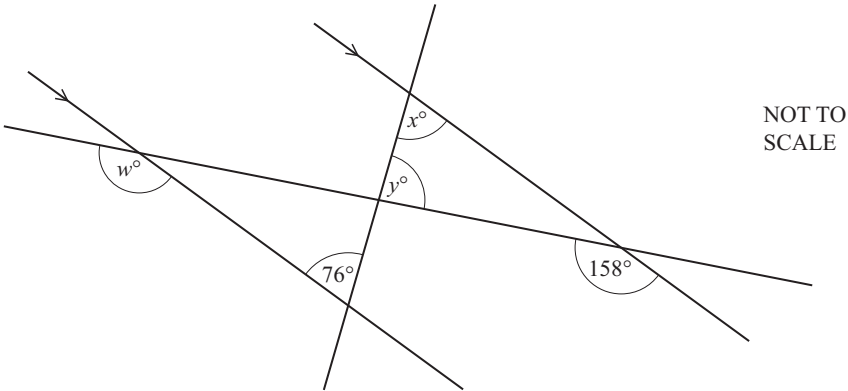
..... m [2]

- (b) The length of the race is 100 m.
After 10 seconds, the athlete continues to run at a speed of 8 m/s until the end of the race.

Calculate the **total** time the athlete takes to complete the 100 m race.

..... s [2]

2



The diagram shows two parallel lines intersecting two straight lines.
Find the values of w , x and y .

$w =$
 $x =$
 $y =$ [4]

13 Convert 8 litres into cm^3 .

..... cm^3 [1]

24 A circle has radius 7 cm.
A square has side x cm.
The circumference of the circle is the same length as the perimeter of the square.

Find the value of x .
Give your answer in terms of π .

$x =$ [3]