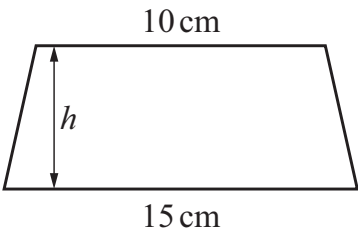


13 (a) The surface area of a solid cube is 121.5 cm^2 .

Calculate the length of the side of the cube.

..... cm [3]

(b)



NOT TO
SCALE

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]

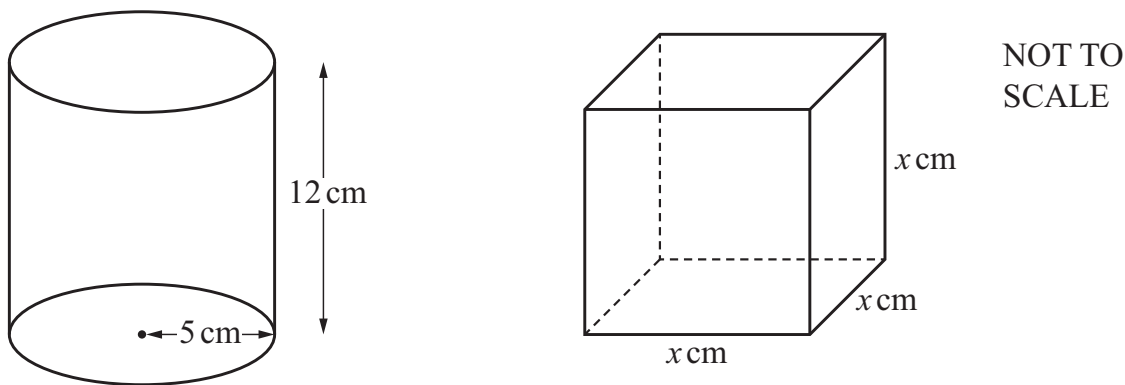
14 A bag contains red, yellow, blue and green cards.
The table shows the probability of taking a red card and a yellow card.
The probability of taking a blue card or a green card is in the ratio blue : green = 5 : 2 .

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.

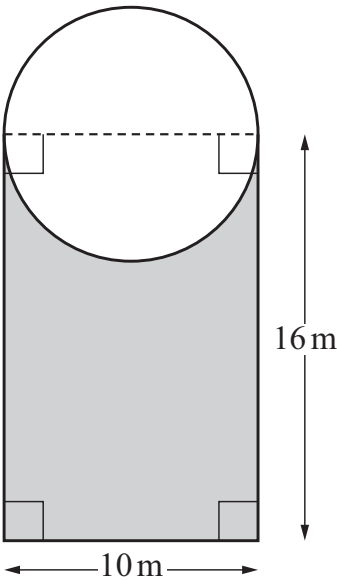
Find the value of x .

$x =$ [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]

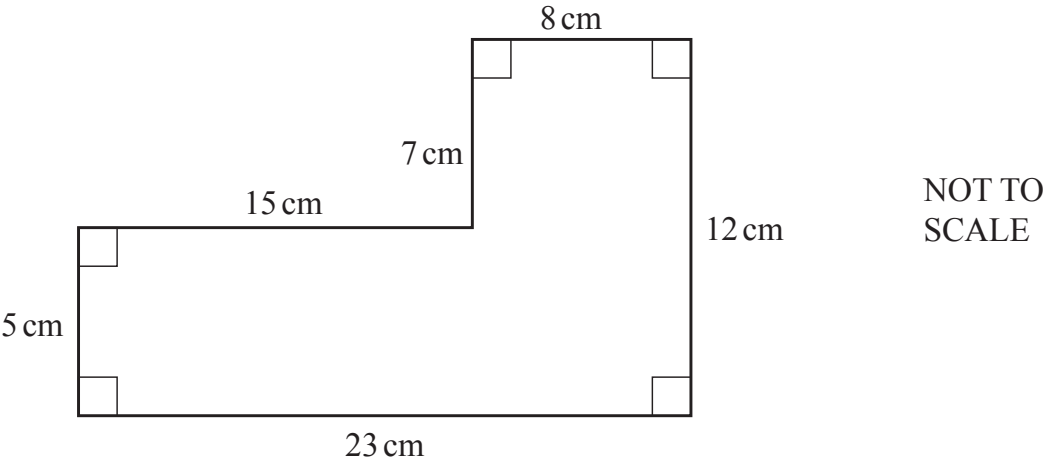
(b) Find the area of the grass.

..... m² [2]

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

..... % [2]

9



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.

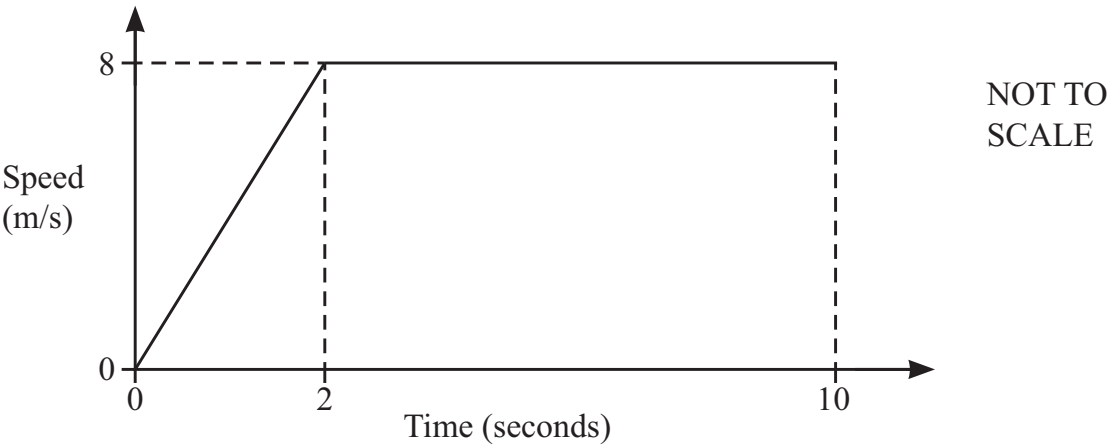
..... % [2]

- (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.

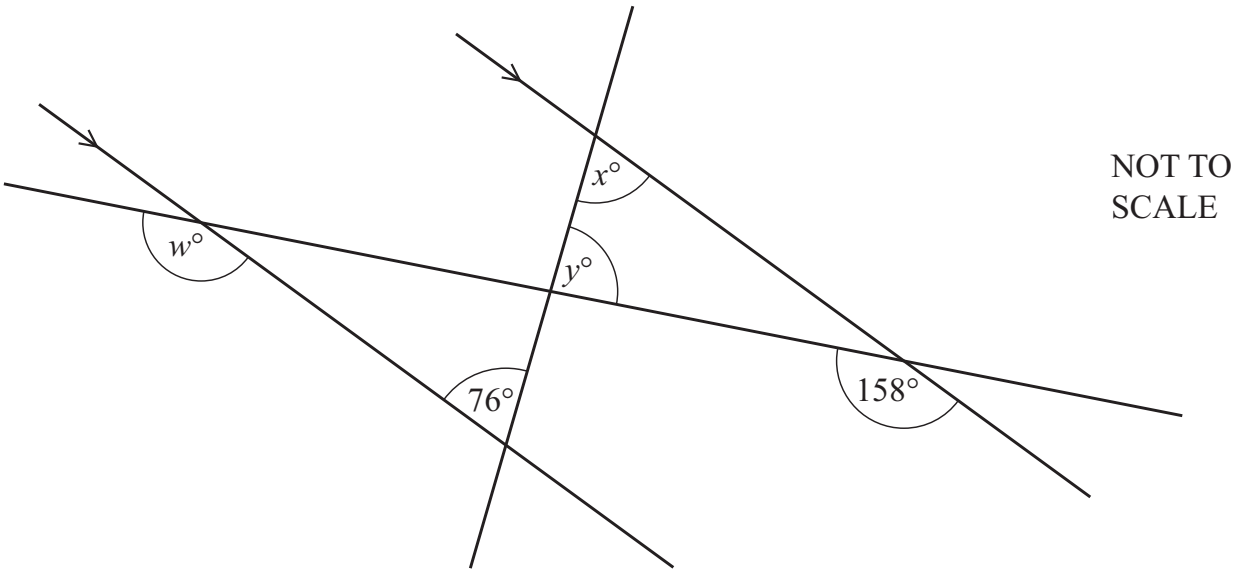
..... m [2]

(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]