



FUNCTIONAL SKILLS MATHEMATICS

AQA | Edexcel | City & Guilds | Open Awards | NCFE | Highfield

Level 2

Using Length, Area and Volume in Calculations

Materials

- You **cannot** use a calculator for **questions** with this symbol.



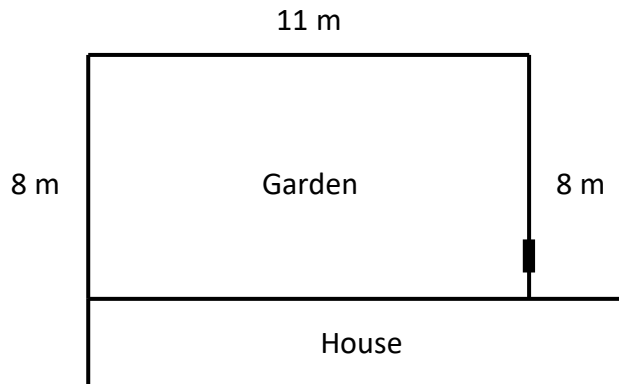
Instructions

- Answer **all** questions.
- Answer questions on separate paper.

Information and Advice

- The marks for each question are shown in brackets – use this as a guide on how long to spend on each question.
- Read each question carefully before you answer it.
- Check you answers.

- Q1** Adam is putting fencing up around three sides of his garden. A sketch of his garden is shown below. The gate to the garden is 0.8 m wide and doesn't need fencing.



Calculate the length of fencing Adam needs.

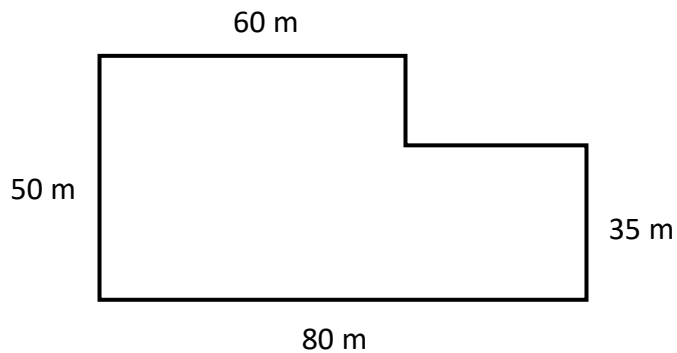
[2 marks]

- Q2** Peter is fitting a kitchen floor. The kitchen floor is 3 m long and 2.5 m wide. The kitchen tiles he will use are 0.5 m long and 0.5 m wide.

How many tiles will Peter need to buy?

[2 marks]

- Q3** Jon is a gardener. He is cutting the grass of the field seen in the diagram below.



He can cut 50 m^2 of grass in 1 minute. Work out how long it would take Jon to cut the grass of this field.

[3 marks]

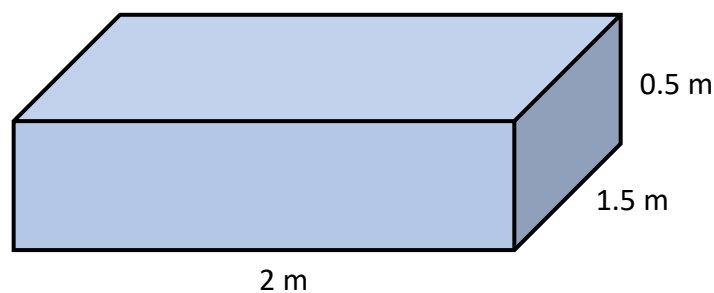
Q4 Mila wants to put lawn feed on her lawn.
Her lawn is 7.2 m long and 4.5 m wide.
Mila is going to cover her lawn with lawn feed twice.
1 kg covers 20 m² of lawn.
Lawn feed is sold in 2.5 kg boxes, costing £6.99 per box.
Calculate how much it will cost Mila to put lawn feed on her lawn.
You must show your working.

[4 marks]

Q5 Ice cube trays make ice cubes measuring 2 cm by 2 cm by 3 cm. Each ice cube tray holds 12 ice cubes.
How many ice cube trays will be needed to make ice cubes from 1500 cm³ of water?

[3 marks]

Q6 Susie is filling up a rectangular paddling pool with water. The dimensions of the paddling pool can be seen in the diagram below.

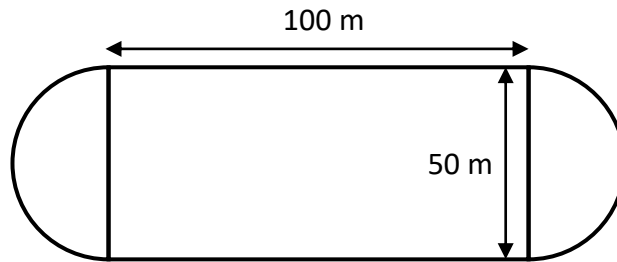


She is going to fill the paddling pool to 50% of its depth. She will do this using a hose pipe that will fill it with 0.05 m³ of water per minute.

Calculate how long it will take Susie to fill the paddling pool with water using this hose pipe.

[3 marks]

- Q7** The diagram shows a running track that is made up of a rectangle and two semicircles.



Mo wants to run at least 12 km around the outside of the running track.

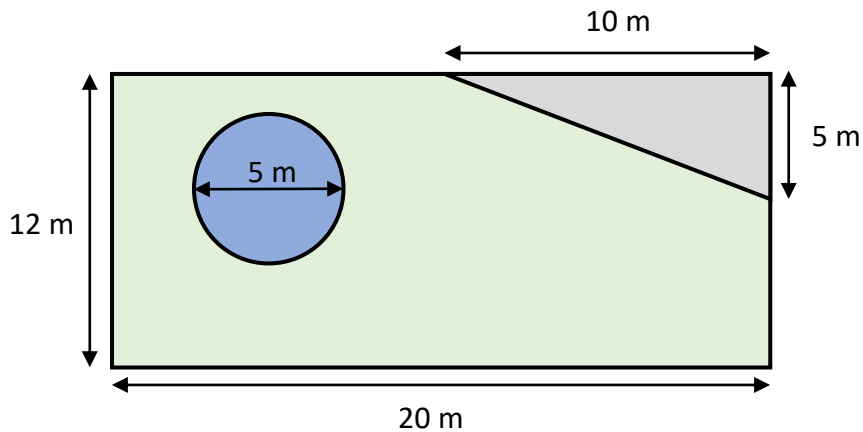
He can only complete full laps, i.e. he must finish the final lap even if he reaches his target of 12 km during the final lap.

How many **full laps** would he need to complete to do this?

Use $\pi = 3.14$

[4 marks]

- Q8** The diagram below shows Ian's back garden. He has a patio in the shape of a triangle, and a pond in the shape of a circle. The rest of his garden is filled with grass.



Ian needs to water each m^2 of grass with 10 litres of water per week.

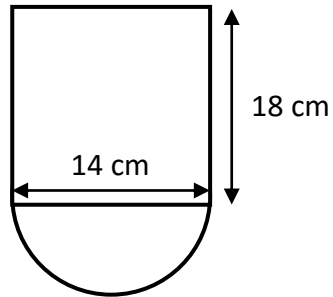
How much water will Ian need to use to water his grass per week?

Use $\pi = 3.14$

[4 marks]

Q9

Benny has a slush machine that produces slush drink. The diagram below shows the front view of the slush machine, which is made up of a rectangle and a semicircle. The slush machine has a length of 25 cm.



Benny's slush machine is filled up to 80% of its capacity.

Benny sells slush drinks to his customers. Each slush drink contains 300 ml of slush, and he sells these for £1.50 each.

$$1 \text{ cm}^3 = 1 \text{ ml}$$

How much money will Benny make if he sells as many drinks as possible using all of the slush he has in his machine?

Show your working.

$$\text{Use } \pi = 3.14$$

[6 marks]