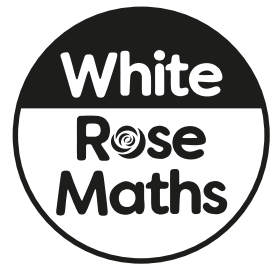


For: Pearson Edexcel GCSE (9–1)

GCSE

Practice Paper 1MA1



Mathematics

Paper 3F (Calculator) Foundation Tier



Surname

Other names

Set B

Written in accordance with advance information for November 2022

You should have:

A pen, pencil, ruler, eraser and a scientific calculator.

Tracing paper may be used.

A formula sheet.

Information

- The total mark for this paper is 80
- The marks for each question are shown in brackets.
- Answer all questions in the spaces provided – *there may be more space than you need.*
- You must show all your working.
- Diagrams are not accurately drawn, unless otherwise indicated.
- Check your answers if you have time at the end.

This assessment has been designed by White Rose Maths.

For more information, please visit www.whiterosemaths.com

1 Write $\frac{4}{5}$ as a decimal.

(1 mark)

2 What is the value of the 9 in the number 294325?

(1 mark)

3 Change 3600 grams to kilograms.

_____ kg

(1 mark)

4 Write down a number that is a multiple of 12 **and** a multiple of 15

(2 marks)

5 Work out the missing term in each sequence.

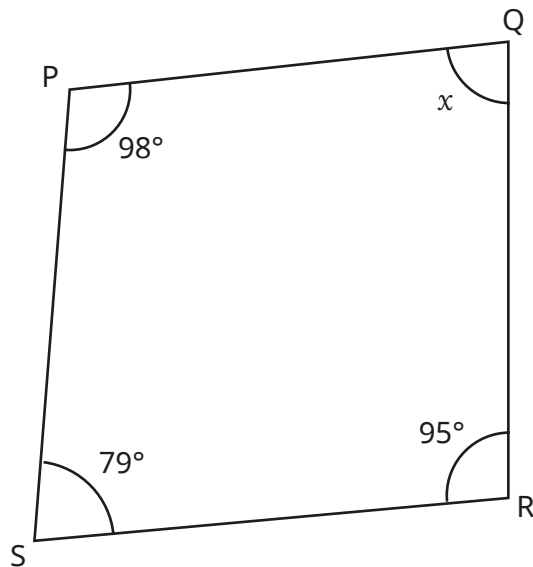
a) 100, 92, —, 76, 68 ...

_____ (1 mark)

b) $\frac{1}{4}$, $\frac{1}{2}$, 1, —, 4 ...

_____ (1 mark)

6 PQRS is a quadrilateral.



*diagram not
drawn accurately*

a) Work out the size of the angle marked x.

_____° (2 marks)

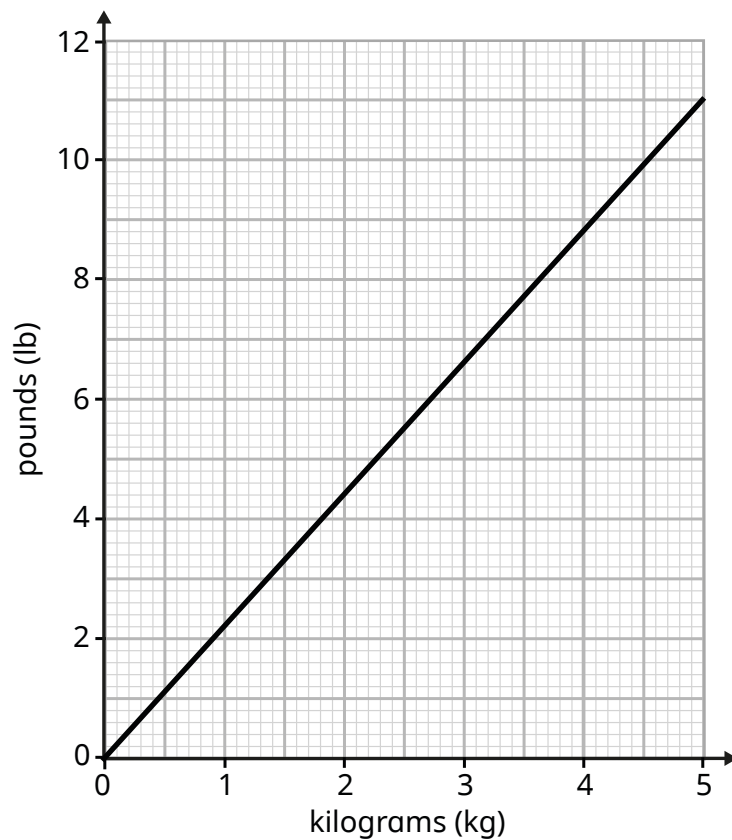
b) Give a reason for your answer.

(1 mark)

- 7** 0.6 kg of potatoes costs 72p.
How much do these potatoes cost per kilogram?

(2 marks)

- 8** You can use this graph to convert between kilograms (kg) and pounds (lb).



- a)** Convert 3 kg to pounds.

_____ lb

(1 mark)

- b)** Convert 50 lb to kilograms.

_____ kg

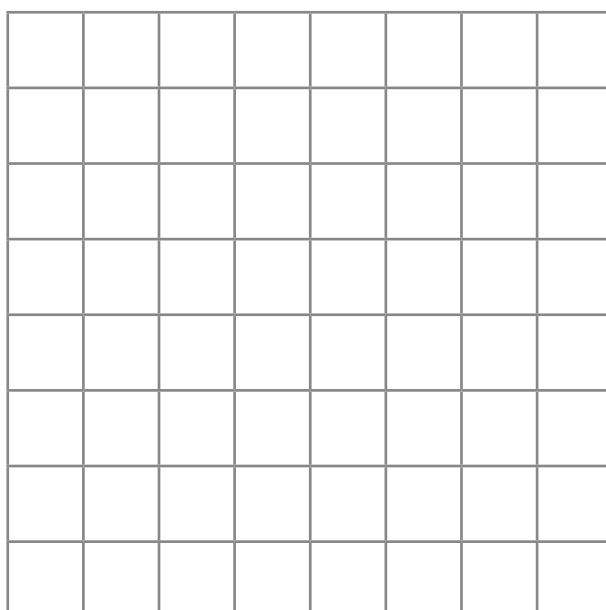
(2 marks)

9 a) $\mathbf{a} = \begin{pmatrix} -3 \\ 7 \end{pmatrix}$ and $\mathbf{b} = \begin{pmatrix} 0 \\ 9 \end{pmatrix}$

Work out $2\mathbf{a} + \mathbf{b}$ as a column vector.

(2 marks)

b) Draw the vector $\begin{pmatrix} 2 \\ 5 \end{pmatrix}$ on the grid.



(2 marks)

10 Write the numbers in order of size.

Start with the smallest number.

0.4

0.401

0.34

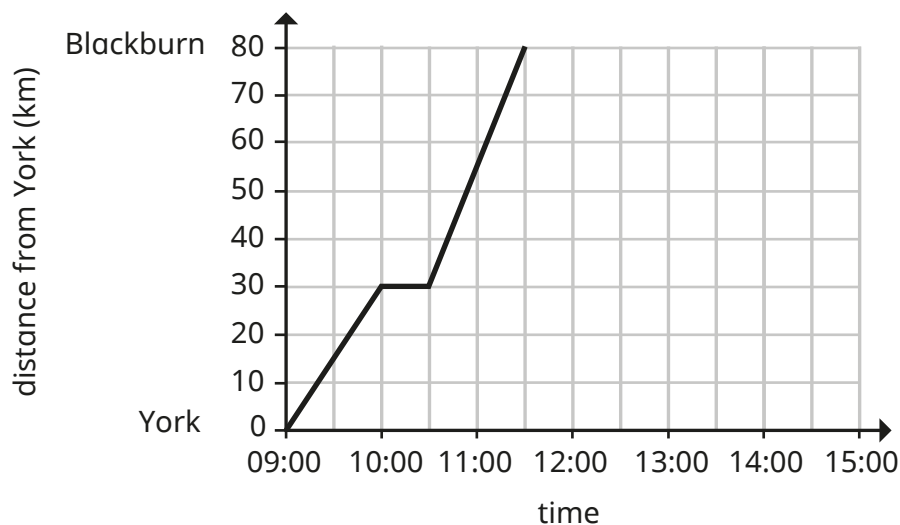
0.104

0.44

(2 marks)

- 11** Mrs Trent travelled from York to Blackburn.

Her journey is shown on the distance-time graph.



- a)** Mrs Trent took a break in her journey at a service station.

How long did she stop for?

(1 mark)

- b)** How far from Blackburn is the service station?

(2 marks)

- c)** Mrs Trent stayed in Blackburn for one hour.
She then drove back to York at constant speed.
She arrived back in York at 15:00
Complete the graph to show this information.

(2 marks)

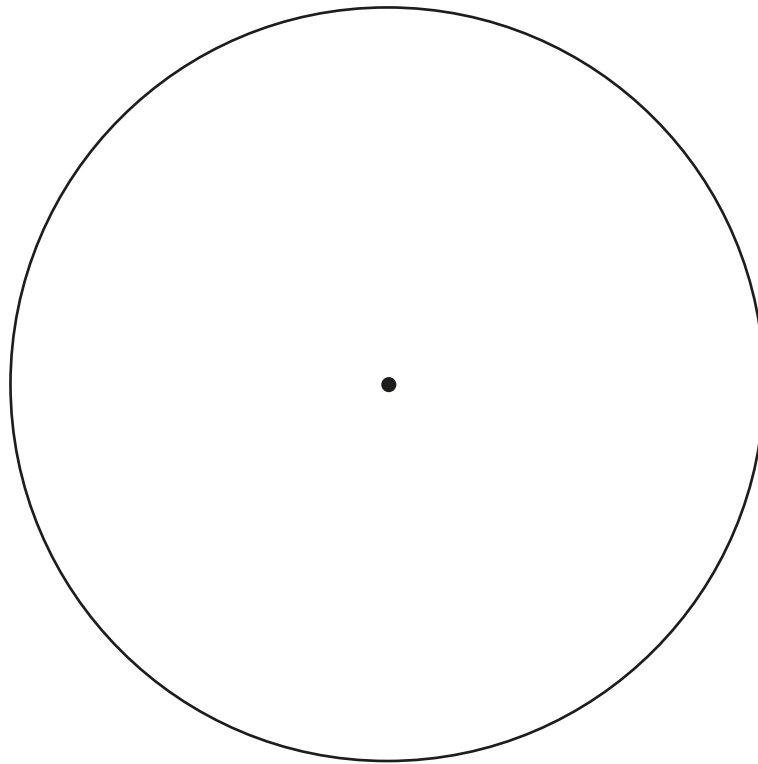
- d)** Work out Mrs Trent's average speed for the return journey.

(2 marks)

12 One day, Mr Singh spent:

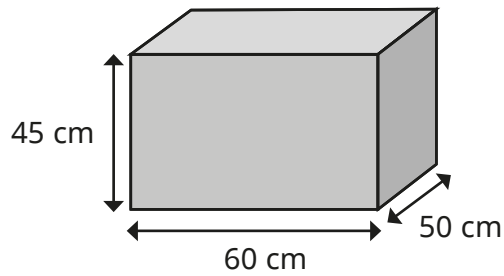
- 8 hours asleep
- two-fifths of the day at work
- the rest of the day doing other activities

Draw an accurate pie chart to show this information.



(4 marks)

- 13** A water tank is in the shape of a cuboid with a length of 60 cm, a width of 50 cm and a height of 45 cm.



*diagram not
drawn accurately*

1 litre = 1000 cm³

How many litres of water can the tank hold?

_____ litres
(3 marks)

- 14** Use your calculator to work out $\frac{6.12 + 3.07^2}{4.06}$

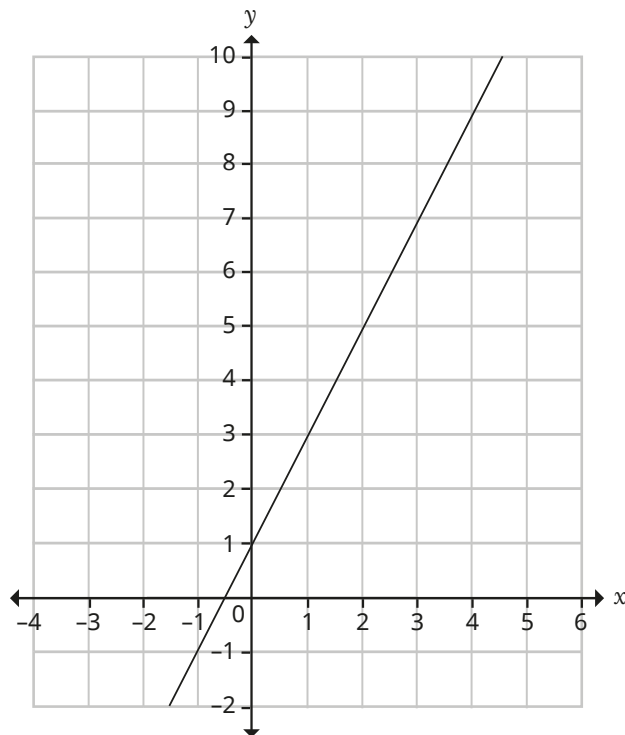
a) Write down all the figures on your calculator display.

(2 marks)

b) Write your answer to part a) correct to 2 decimal places.

(1 mark)

- 15** The line with equation $y = 2x + 1$ has been drawn on the grid.



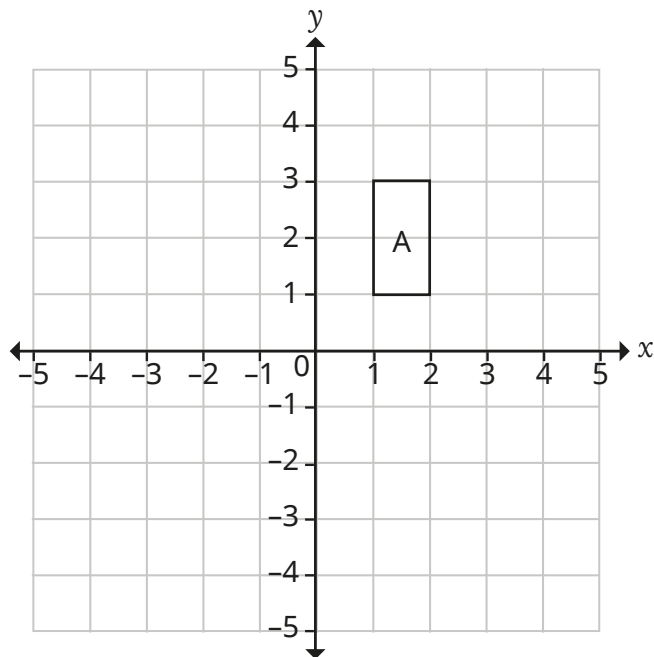
- a)** Plot the points with coordinates $(-1, 2)$, $(1, 6)$ and $(2, 8)$ on the grid.

(1 mark)

- b)** What is the equation of the line that passes through these points?

(2 marks)

- 16** Shape A is drawn on the coordinate grid.



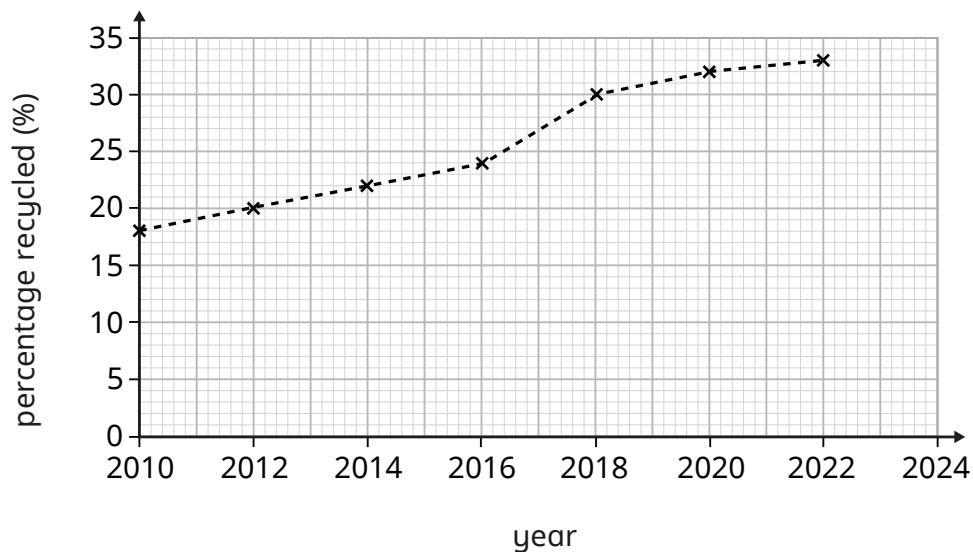
Translate shape A by the vector $\begin{pmatrix} -3 \\ 1 \end{pmatrix}$.

(2 marks)

- 17** A cheetah is running at 30 metres per second.
A springbok is running at 88 kilometres per hour.
Show that the cheetah is running faster than the springbok.

(2 marks)

- 18** The time series graph shows information about the percentage of waste recycled by a council.



- a)** Between which two years did the percentage of waste recycled increase the most?

(1 mark)

- b)** Describe the trend shown by the graph.

(1 mark)

- c)** Explain why you cannot use the graph to estimate the percentage of waste that will be recycled in 2024

(1 mark)

19 150 new houses are built on an estate.

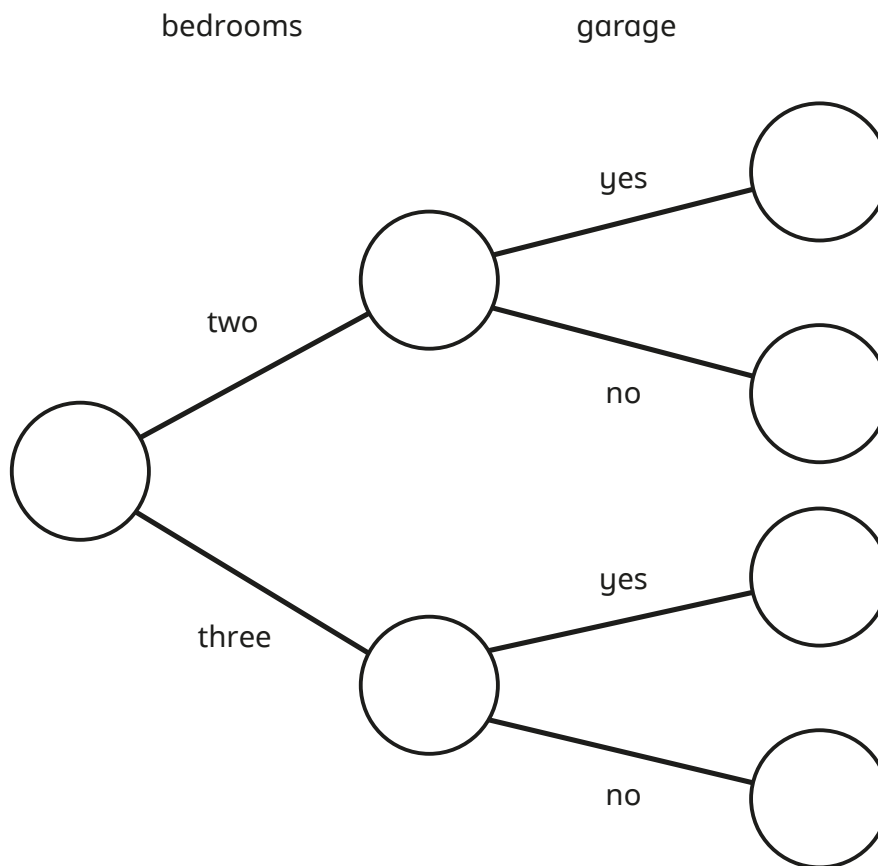
Each house has either two bedrooms or three bedrooms.

Some of the houses have garages, and the rest do not.

95 of the houses have two bedrooms.

30 of the 70 houses that have garages are two-bedroom houses.

a) Complete the frequency tree to show this information.



(4 marks)

b) Write the ratio of the number of two-bedroom houses to the number of three-bedroom houses in its simplest form.

_____ (2 marks)

20 a) Write $\frac{1}{1000}$ in standard form.

(1 mark)

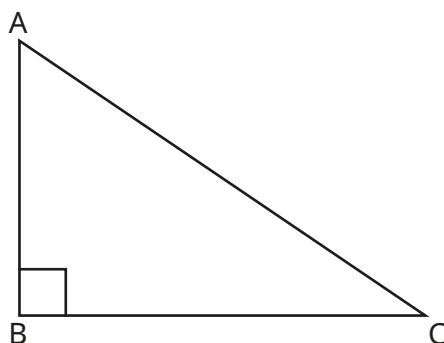
b) Scott thinks that $(2 \times 10^5) \times (3 \times 10^6) = 6 \times 10^{30}$
Explain why Scott is wrong.

(1 mark)

c) Calculate $(1.2 \times 10^8) \div \sqrt{4 \times 10^6}$
Give your answer in standard form.

(2 marks)

21 ABC is a right-angled triangle.



*diagram not
drawn accurately*

The ratio of the size of $\angle BAC$: the size of $\angle ACB$ is 3 : 2

Work out the size of $\angle BAC$.

You must show your working.

_____ °

(3 marks)

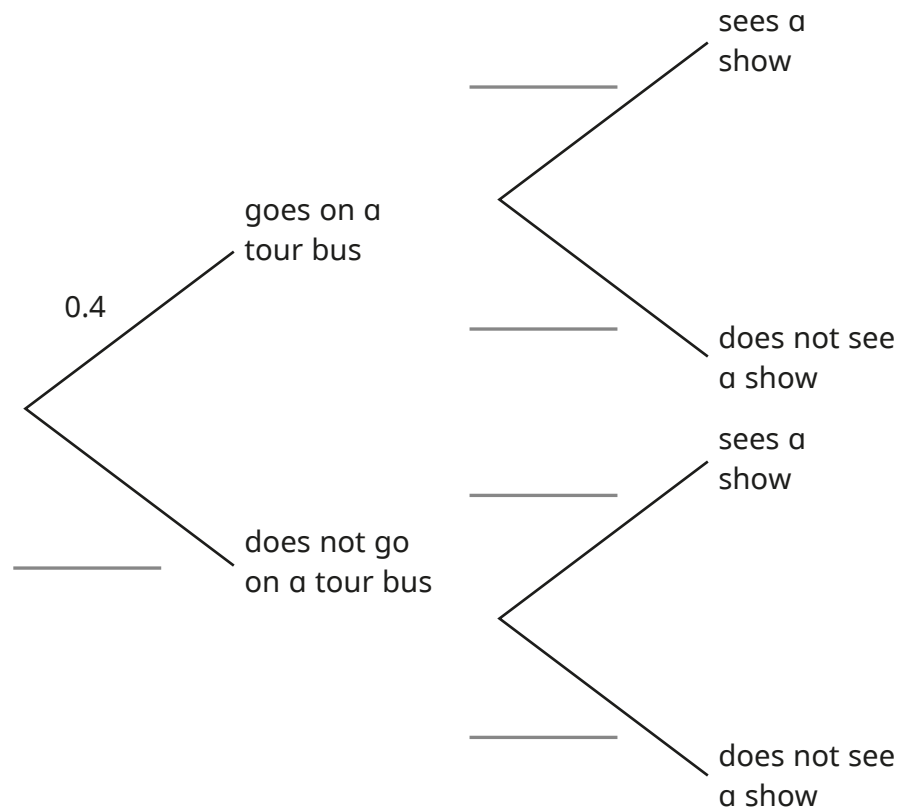
22 Whitney is visiting London.

The probability that she will go on a tour bus is 0.4

Whitney going to a show is independent of her going on a tour bus.

The probability that she will go on a tour bus **and** go to a show is 0.28

Complete the tree diagram.



(4 marks)

23 Make q the subject of the formula $p = 2q^2 - 3$

(3 marks)

24 The mean of two numbers is 48

The ratio of the size of the greater number : the size of the smaller number is 5 : 1

Find the greater of the two numbers.

(3 marks)

25 The volume of a cylinder is $1536\pi \text{ cm}^3$

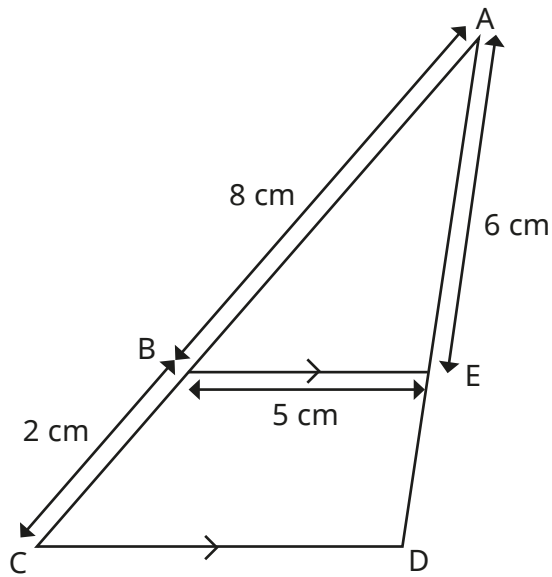
The height of the cylinder is three times its radius.

Work out the height of the cylinder.

_____ cm

(3 marks)

26



*diagram not
drawn accurately*

BE is parallel to CD.

AB = 8 cm, BC = 2 cm, BE = 5 cm, AE = 6 cm

a) Explain why triangles ABE and ACD are similar.

(2 marks)

b) Calculate the length of DE.

_____ cm

(2 marks)

c) Calculate the length of CD.

_____ cm

(2 marks)