Please check the examination details below before entering your candidate information

Candidate surname	Other names

Pearson Edexcel International GCSE

Centre Number	Candidate Number

Time 2 hours

Paper reference **4MA1/1F**

Mathematics A

PAPER 1F

Foundation Tier

You must have:
Ruler graduated in centimetres and millimetres, protractor, compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Without sufficient working, correct answers may be awarded no marks.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*
- **Calculators may be used.**
- You must **NOT** write anything on the formulae page.
  Anything you write on the formulae page will gain NO credit.

Information

- The total mark for this paper is 100.
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Check your answers if you have time at the end.
- Good luck with your examination.

Turn over ▶

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1/1/1/1/1/1

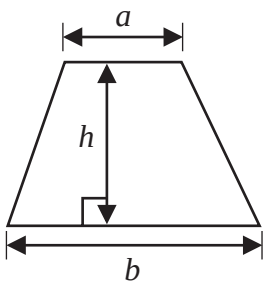
P 6 5 9 1 3 R A 0 1 2 0

Pearson

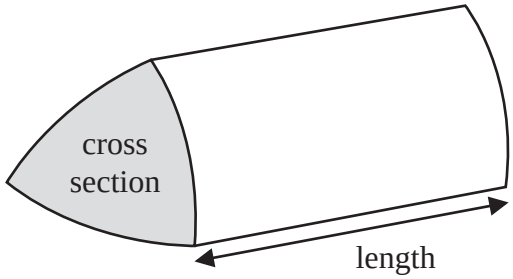
International GCSE Mathematics

Formulae sheet – Foundation Tier

Area of trapezium = $\frac{1}{2}(a + b)h$

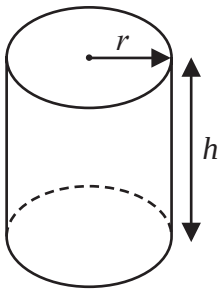


Volume of prism = area of cross section × length



Volume of cylinder = $\pi r^2 h$

Curved surface area of cylinder = $2\pi rh$



Answer ALL TWENTY TWO questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1 Here are five fractions.

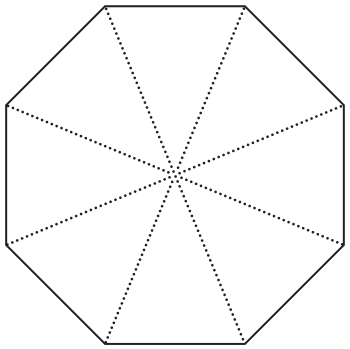
$\frac{2}{8}$	$\frac{3}{9}$	$\frac{5}{25}$	$\frac{7}{28}$	$\frac{8}{40}$

Two of the fractions in the table are equivalent to $\frac{1}{5}$

(a) Put a tick (✓) in the box underneath each of these two fractions.

(2)

The diagram shows an 8-sided polygon and its diagonals.



(b) Write down the mathematical name of an 8-sided polygon.

.....

(1)

(c) Shade $\frac{3}{4}$ of the polygon shown in the diagram above.

(1)

The area of a polygon is 56 cm^2

(d) Find $\frac{3}{4}$ of 56

.....

(2)

(Total for Question 1 is 6 marks)

2 The table shows the average number of spectators per match, for each of six Spanish football teams, in one season.

Team	Average number of spectators per match
Real Betis	46 393
Valencia	38 699
Barcelona	65 731
Athletic Bilbao	37 378
Sevilla	33 069
Real Madrid	65 027

(a) Which team had the lowest average number of spectators per match?

.....

(1)

(b) Write the number 65 731 correct to the nearest thousand.

.....

(1)

(c) Write down the value of the 6 in the number 38 699

.....

(1)

In one match, Sevilla played Valencia.
In the match, Sevilla had 8 shots on target and Valencia had 12 shots on target.

(d) Write the ratio 8:12 in its simplest form.

.....

(1)

In the same match, Valencia had 72% possession of the ball.

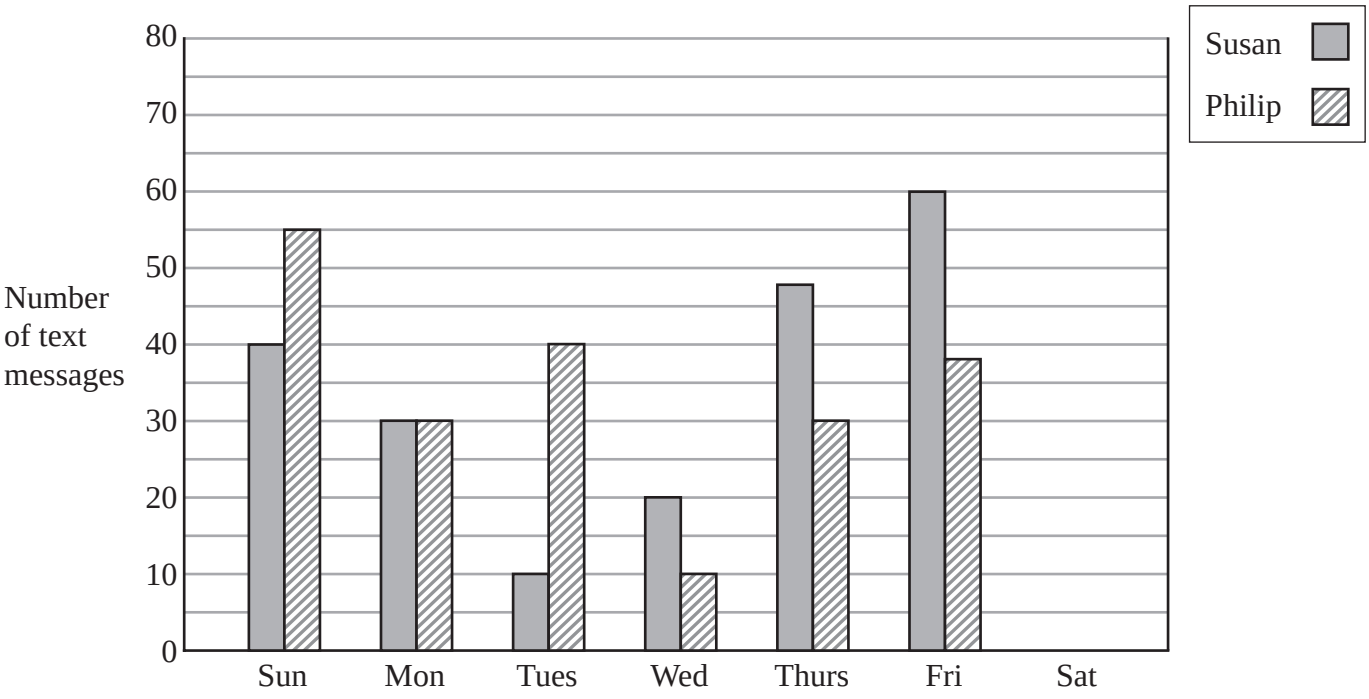
(e) Write 72% as a fraction in its simplest form.

.....

(2)

(Total for Question 2 is 6 marks)

3 The bar chart shows information about the numbers of text messages that Susan and Philip sent from their mobile phones on each of six days one week.



(a) On which day did Susan send twice as many text messages as Philip?

.....

(1)

(b) How many text messages did Philip send on Sunday?

.....

(1)

On Saturday, Susan sent 15 text messages and Philip sent 40 text messages.

(c) Show this information on the bar chart.

(1)

In the following week, Philip sent a total of 180 text messages.
Of these text messages, 25% were sent to Susan.

(d) Work out 25% of 180

.....

(2)

(Total for Question 3 is 5 marks)

4 The table shows the temperatures recorded at midnight and at midday for each of five North American cities on a Monday one week.

City	Midnight temperature (°C)	Midday temperature (°C)
Boston	– 2	14
Houston	11	20
Chicago	– 8	7
Detroit	– 7	– 1
New York	0	12

(a) Which city had the lowest midnight temperature?

.....

(1)

(b) Find the difference between the midnight temperature and midday temperature for Boston.

..... °C

(1)

From Monday to Thursday, the midday temperature in Detroit increased by 2°C each day.

(c) Work out the midday temperature in Detroit on Thursday.

..... °C

(2)

(Total for Question 4 is 4 marks)

5 James is on holiday in Canada.
The exchange rate is £1 = 1.75 Canadian dollars.

(a) Change £800 into Canadian dollars.

.....Canadian dollars
(2)

James buys a watch in Canada.

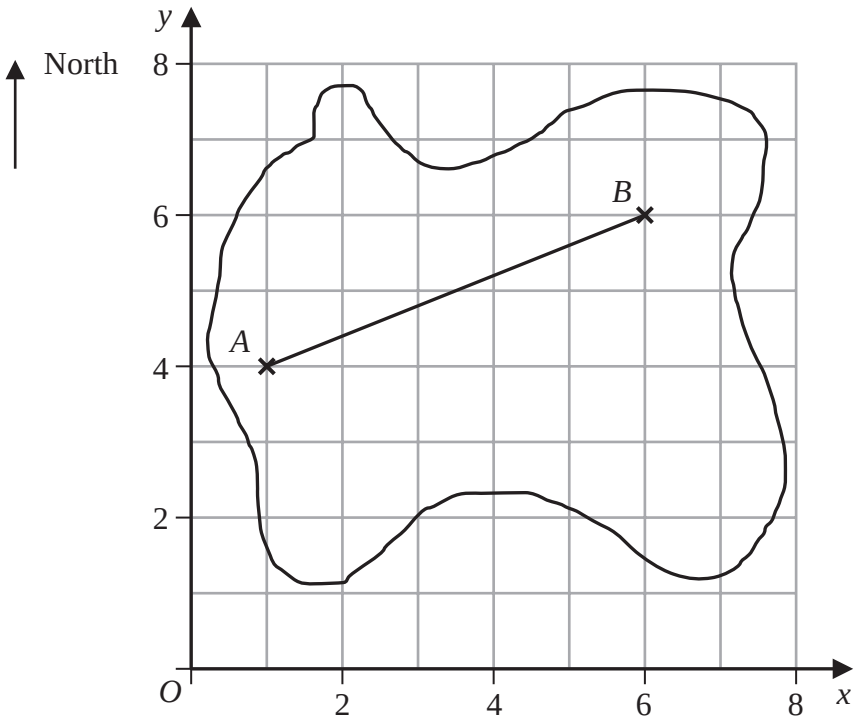
The price of the watch is 98 Canadian dollars.
In England the price of an identical watch is £60

(b) Work out the difference in the prices of the two watches.
Give your answer in pounds (£)

£.....
(2)

(Total for Question 5 is 4 marks)

6 The accurate scale diagram shows the map of an island drawn on a centimetre grid.



The position of Aaron's house is *A*.
The position of Bharat's house is *B*.

(a) Write down the coordinates of *A*.

(..... , ...)

(1)

(b) By measurement, find the bearing of *A* from *B*.

..... °

(2)

(c) Measure the length of the line *AB*.
Give your answer in centimetres correct to one decimal place.

..... cm

(1)

Aaron cycled along a straight path from his house to Bharat's house.
The scale of the map is 1 cm represents 5 km.

(d) Work out the distance, in kilometres, that Aaron cycled.

..... km
(1)

Aaron left his house at 10 45 am and arrived at Bharat's house at 1 05 pm.

(e) How long did Aaron's cycle ride take him?
Give your answer in hours and minutes.

..... hours ..... minutes
(2)

(Total for Question 6 is 7 marks)

7 (a) Solve $5x = 20$

$x =$ .....
(1)

(b) Simplify $3a \times 8b$

.....
(1)

(c) Simplify $8w - 4y + w - 3y$

.....
(2)

(d) Factorise fully $16 + 12t$

.....
(2)

(Total for Question 7 is 6 marks)

8 The table shows information about the grades some Year 9 students gained in a biology test and in a physics test. The highest grade is **A** and the lowest grade is **D**.

Physics \ Biology	**A**	**B**	**C**	**D**
A	8	6	2	1
B	3	5	4	0
C	4	2	6	2
D	0	0	5	0

(a) How many students gained a grade **C** in biology?

.....

(2)

(b) How many students gained the same grade in biology as they gained in physics?

.....

(2)

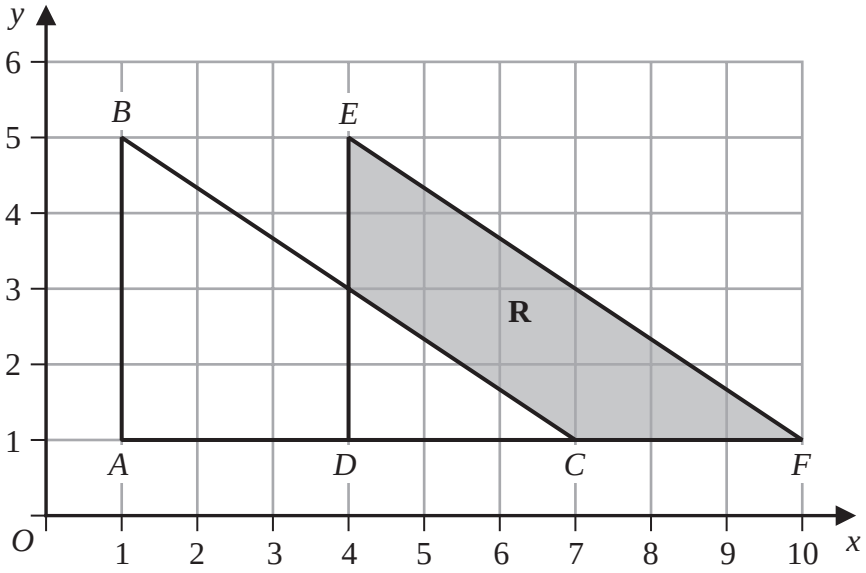
(c) How many students gained a higher grade in biology than they gained in physics?

.....

(2)

(Total for Question 8 is 6 marks)

9 The diagram shows two congruent triangles, *ABC* and *DEF*, drawn on a centimetre grid.



Find the area of the region **R**, shown shaded in the diagram.

..... cm^2

(Total for Question 9 is 3 marks)

10 (a) Show that $\frac{3}{10} \div \frac{1}{4} = \frac{6}{5}$

(2)

(b) Show that $\frac{5}{6} - \frac{3}{4} = \frac{1}{12}$

(2)

(Total for Question 10 is 4 marks)

11 (a) Use your calculator to work out the value of $\frac{2.14^3 - 3.76}{\sqrt{1.24}}$

Write down all the figures on your calculator display.

.....

(2)

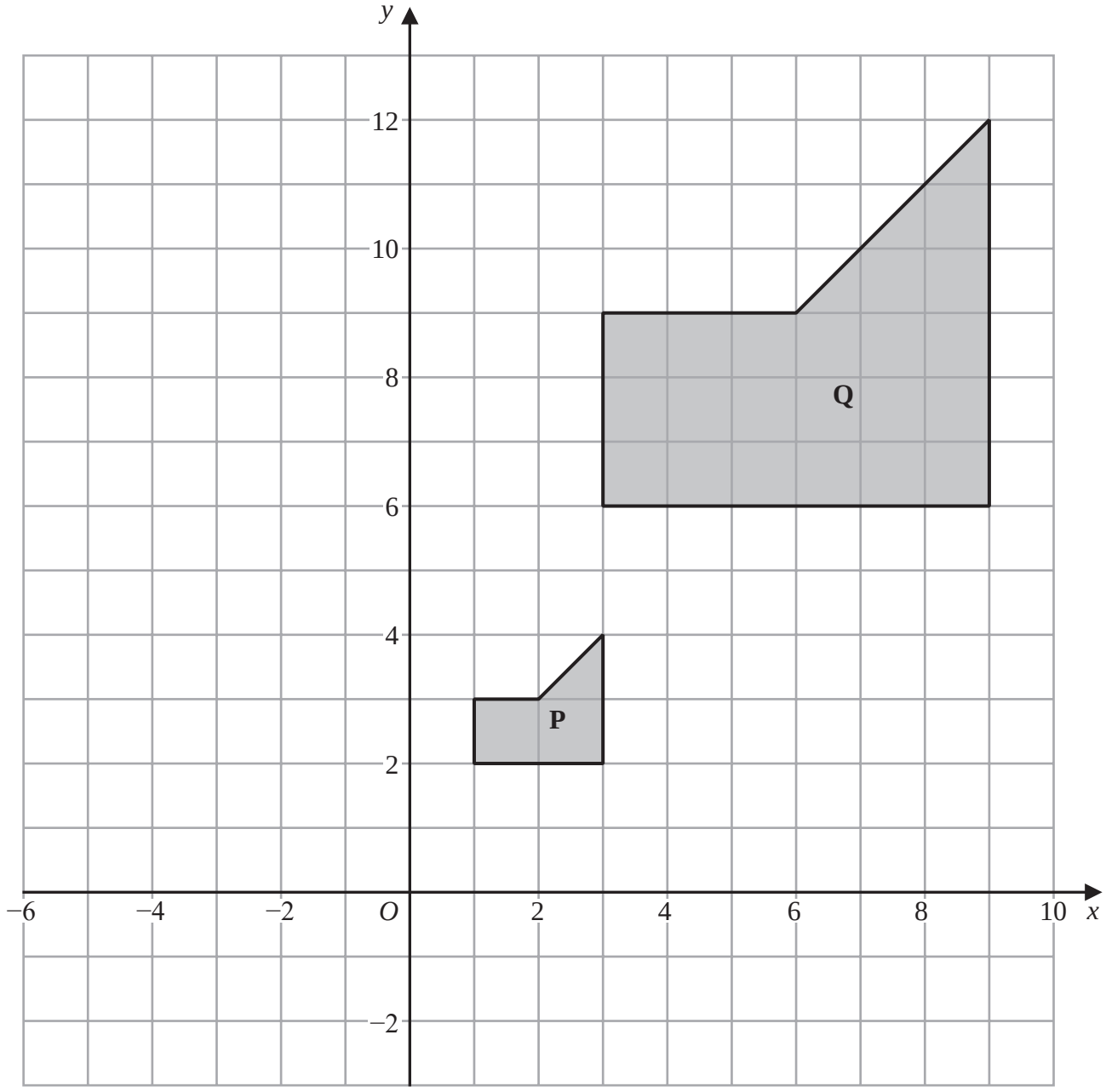
(b) Write your answer to part (a) correct to 2 significant figures.

.....

(1)

(Total for Question 11 is 3 marks)

12



(a) Describe fully the single transformation that maps shape **P** onto shape **Q**.

.....

.....

.....

(3)

(b) On the grid, reflect shape **P** in the line with equation $x = 5$
Label your shape **R**.

(2)

(Total for Question 12 is 5 marks)

13 (a) Simplify $e^8 \div e^2$

.....

(1)

(b) Expand and simplify $(x - 3)(x + 1)$

.....

(2)

(Total for Question 13 is 3 marks)

14 Here is a right-angled triangle.

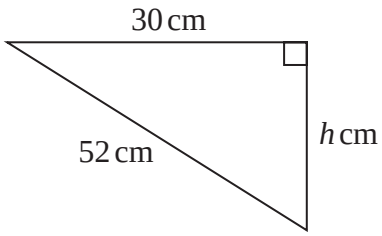


Diagram **NOT** accurately drawn

Calculate the value of h.
Give your answer correct to 3 significant figures.

h = ...

(Total for Question 14 is 3 marks)

15 There are 54 fish in a tank.
Some of the fish are white and the rest of the fish are red.

Jeevan takes at random a fish from the tank.
The probability that he takes a white fish is $\frac{4}{9}$

(a) Work out the number of white fish originally in the tank.

.....

(2)

Jeevan puts the fish he took out, back into the tank.
He puts some more white fish into the tank.

Jeevan takes at random a fish from the tank.
The probability that he takes a white fish is now $\frac{1}{2}$

(b) Work out the number of white fish Jeevan put into the tank.

.....

(2)

(Total for Question 15 is 4 marks)

16 The diagram shows the front of a wooden door with a semicircular glass window.

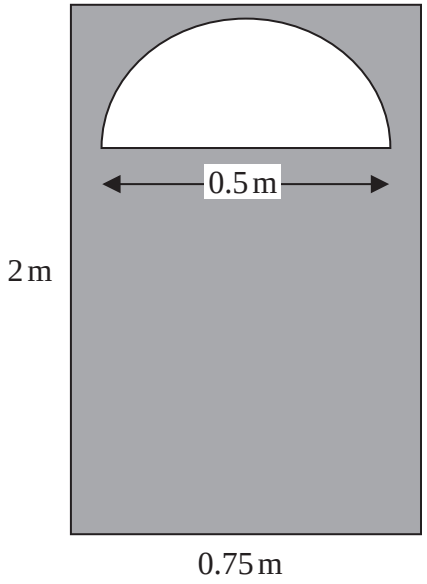


Diagram **NOT** accurately drawn

Julie wants to apply 2 coats of wood varnish to the front of the door, shown shaded in the diagram.

250 millilitres of wood varnish covers 4 m^2 of the wood.

Work out how many millilitres of wood varnish Julie will need.
Give your answer correct to the nearest millilitre.

..... millilitres

(Total for Question 16 is 5 marks)

17 Yasmin has some identical rectangular tiles.
Each tile is L cm by W cm.

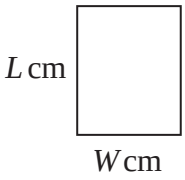


Diagram **NOT** accurately drawn

Using 9 of her tiles, Yasmin makes rectangle $ABCD$ shown in the diagram below.

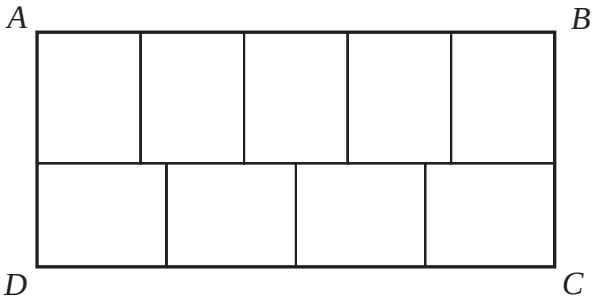


Diagram **NOT** accurately drawn

The area of $ABCD$ is $1620\,\text{cm}^2$

Work out the value of L and the value of W.

$L =$ ..... $W =$ .....

(Total for Question 17 is 5 marks)

18 Alison buys 5 apples and 3 pears for a total cost of $1.96
Greg buys 3 apples and 2 pears for a total cost of $1.22

Michael buys 10 apples and 10 pears.

Work out how much Michael pays for his 10 apples and 10 pears.
Show your working clearly.

$ .....

(Total for Question 18 is 5 marks)

19 Write 3.6×10^3 as a product of powers of its prime factors.
Show your working clearly.

.....

(Total for Question 19 is 3 marks)

20 In 2018, the population of Sydney was 5.48 million.
This was 22% of the total population of Australia.

Work out the total population of Australia in 2018
Give your answer correct to 3 significant figures.

..... million

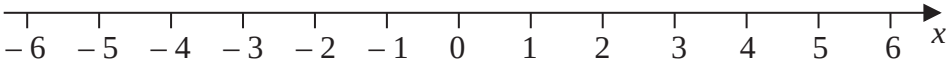
(Total for Question 20 is 3 marks)

21 (i) Solve the inequalities $-7 \leqslant 2x - 3 < 5$

.....

(3)

(ii) On the number line, represent the solution set to part (i)



(2)

(Total for Question 21 is 5 marks)

22 A solid aluminium cylinder has radius 10 cm and height h cm.

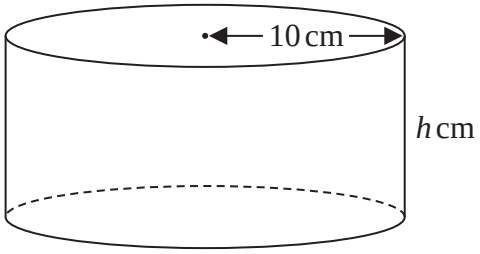


Diagram **NOT** accurately drawn

The mass of the cylinder is 5.4 kg.
The density of aluminium is 0.0027 kg/cm^3

Calculate the value of h.
Give your answer correct to one decimal place.

h = ...

(Total for Question 22 is 5 marks)

TOTAL FOR PAPER IS 100 MARKS