Centre Number **Candidate Number**

Edexcel Mock Test Papers-Paper3 Test2

Paper **3F**

Time 1 hour 30 minutes

Mathematics
PAPER 3 (Calculator)
Foundation Tier

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator, Formulae Sheet (enclosed). 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. Answer the 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.
- **Calculators may be used**. If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.

Information

- The total mark for this paper is 80
- 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. Try to answer every question.
- Check your answers if you have time at the end.

Turn over ▶

Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1   Write the following numbers in order of size.
    Start with the smallest number.

$$0.11 \qquad 0.68 \qquad 0.35 \qquad 0.228$$

....

(Total for Question 1 is 1 mark)

2   Write down the value of the 9 in the number 89 765

....

(Total for Question 2 is 1 mark)

3   Write $\dfrac{2}{9}$ as a decimal.

....

(Total for Question 3 is 1 mark)

4   Write 23.9878 correct to the nearest whole number.

....

(Total for Question 4 is 1 mark)

5   Here is a list of numbers.

$$2 \qquad 3 \qquad 18 \qquad 45 \qquad 89$$

From the list, write down a multiple of 9

....

(Total for Question 5 is 1 mark)

6 The graph shows information about the average monthly temperature, in °C, in London.

Average monthly temperature (°C)
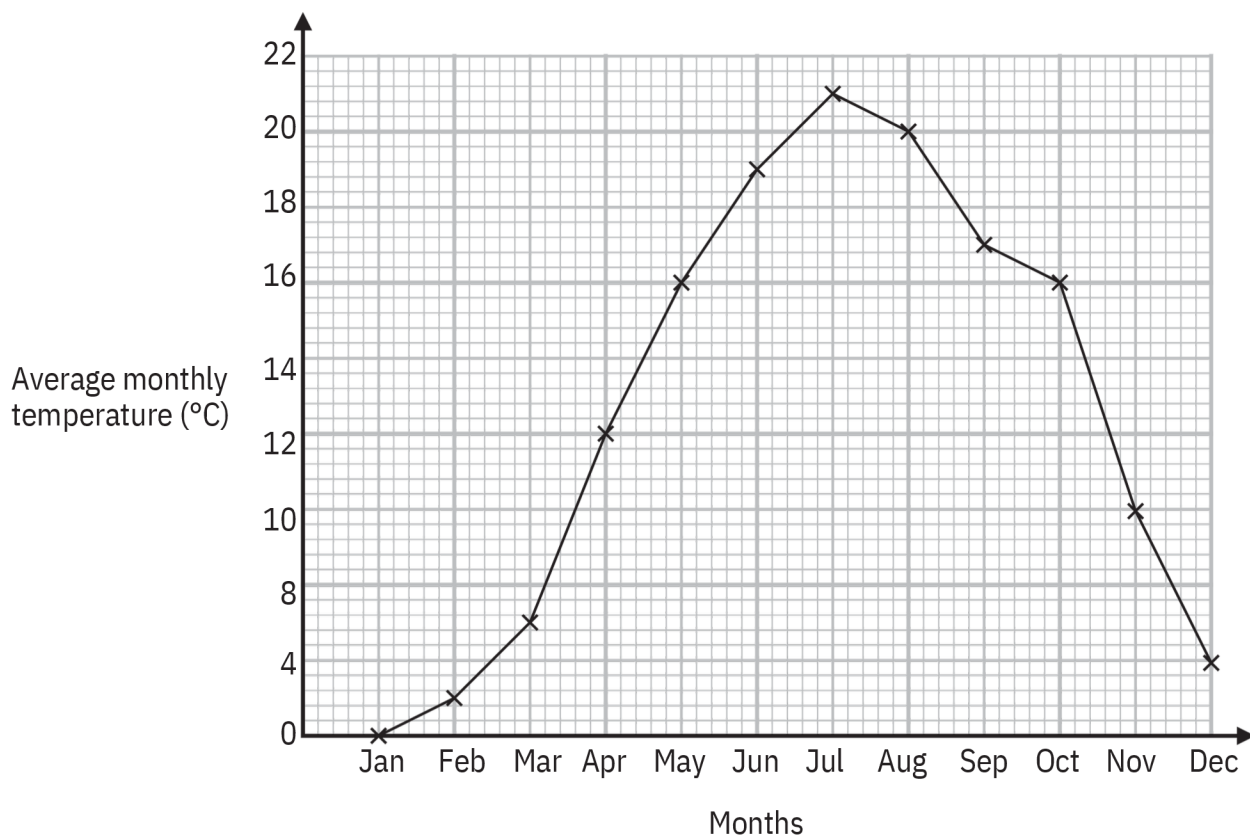
Months

(a) For how many months was the average monthly temperature greater than 12°C?

....
(1)

(b) Write down the two months that had the same average monthly temperature.

.... and ....
(1)

(Total for Question 6 is 2 marks)

7   A toy store sold a total of 120 toys.

$\frac{1}{3}$ of these toys were action figures. The rest of the toys were dolls.

All the action figures were sold for £5 each, while all the dolls were sold for £3 each.

Work out the total amount of money for which the 120 toys were sold.

Give your answer in pounds.

£...

(Total for Question 7 is 3 marks)

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8   Four friends participate in a quiz competition.
    The table shows the number of points each friend scored.

Student	Emma	Eeshu	Sophia	Bella
Number of points	156	132	78	24

Eeshu has more points than Sophia.

(a) How many more points does Eeshu have than Sophia?

....

(1)

(b) Calculate the mean number of points scored by the four friends.

....

(2)

(Total for Question 8 is 3 marks)

9
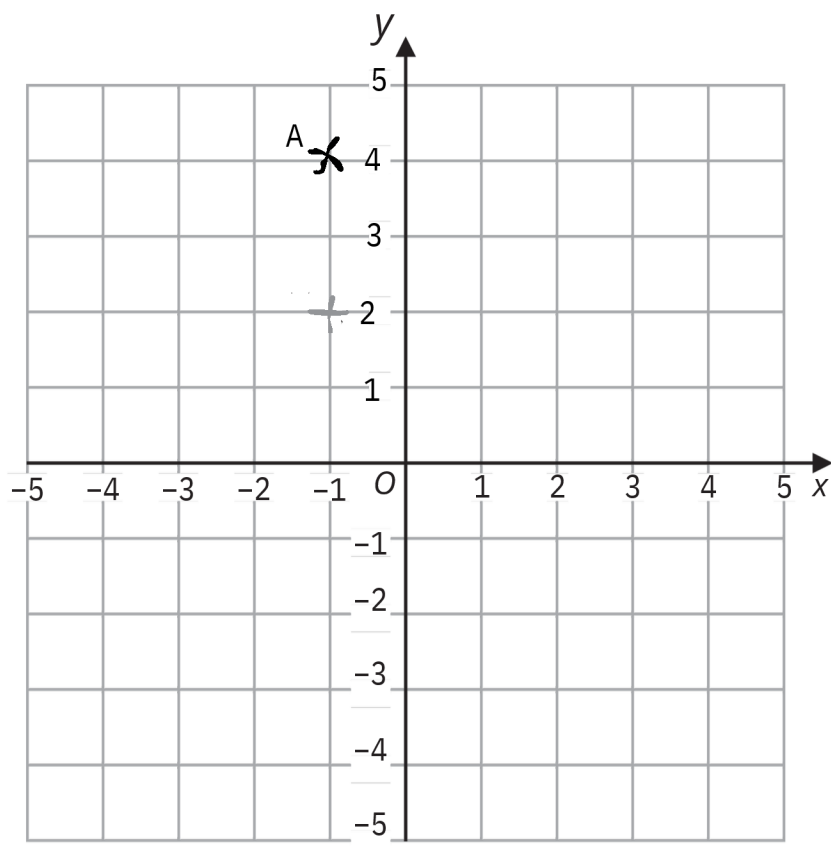
(a) Write down the coordinates of point *A* .

(........................ , ...)

(b) On the grid, mark with a cross (×) the point (1, 4)
Label this point *B*.

(1)

(c) On the grid, draw the line with equation *y* = −2

(1)

(Total for Question 9 is 3 marks)

10 Here are the first three terms of a sequence.

$$10 \qquad 7 \qquad 3$$

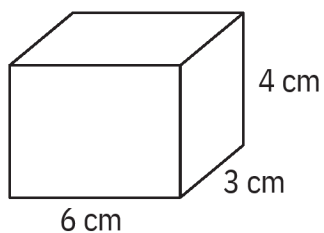(i) Write down two numbers that could be the 4th and 5th terms of this sequence.

.... , ...
(1)

(ii) Write down the rule you used to get your numbers.

....

....

....
(1)

(Total for Question 10 is 2 marks)

11 Here is a cuboid.

4 cm
3 cm
6 cm

Work out the volume of the cuboid.

.... cm3

(Total for Question 11 is 2 marks)

12 Emma, Ali, and Kate each have a number of marbles.

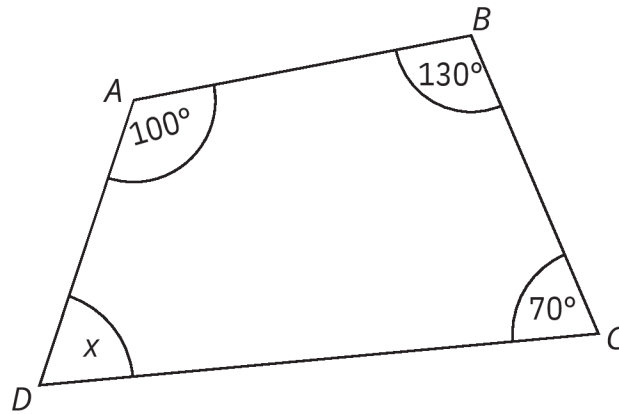The number of marbles that Ali has is 4 times the number of marbles that Emma has.

The number of marbles that Kate has is 3 less than the number of marbles that Ali has.

Write down the ratio:

| the number of marbles that Emma has | : | the number of marbles that Ali has | : | the number of marbles that Kate has |

....

(Total for Question 12 is 2 marks)

13 *ABCD* is a quadrilateral.

(a) (i) Work out the size of angle *x* .

.... °

(1)

(ii) Give a reason for your answer.

....

....

....

(1)

The diagram below shows a triangle.
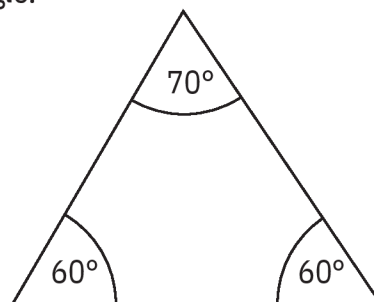
The diagram is wrong.

(b) Explain why.

....

....

....
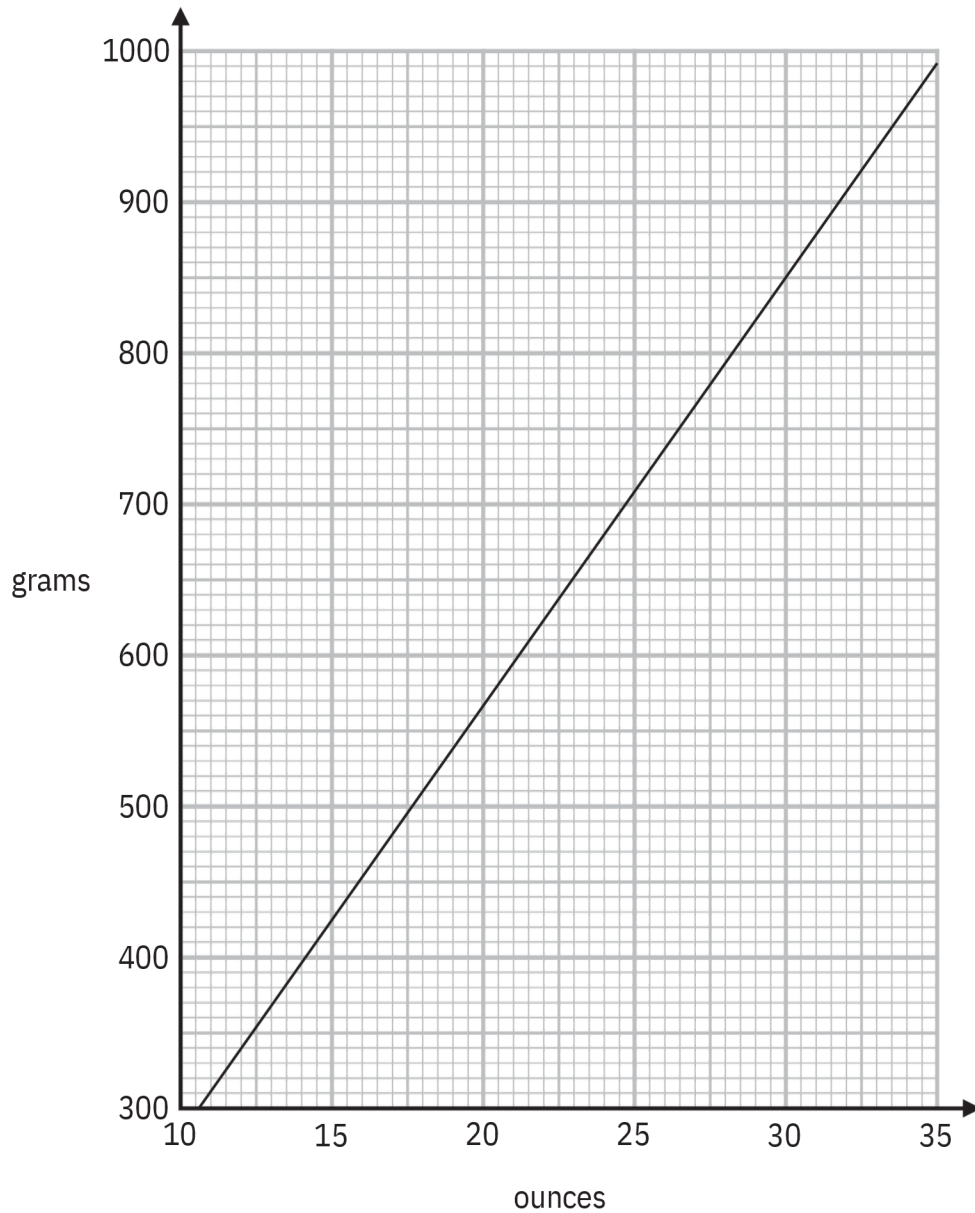
(1)

(Total for Question 13 is 3 marks)

14 You can use this graph to change between ounces and grams.

(a) Change 700 grams to ounces.

.... ounces

(1)

(b) Change 40 ounces to grams.

.... grams

(2)

(Total for Question 14 is 3 marks)

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15 4 kg of potatoes and 3 kg of tomatoes cost a total of £3.50.
    2 kg of tomatoes cost £1.60.

    Sarah has £4.
    She wants to buy 5 kg of potatoes.

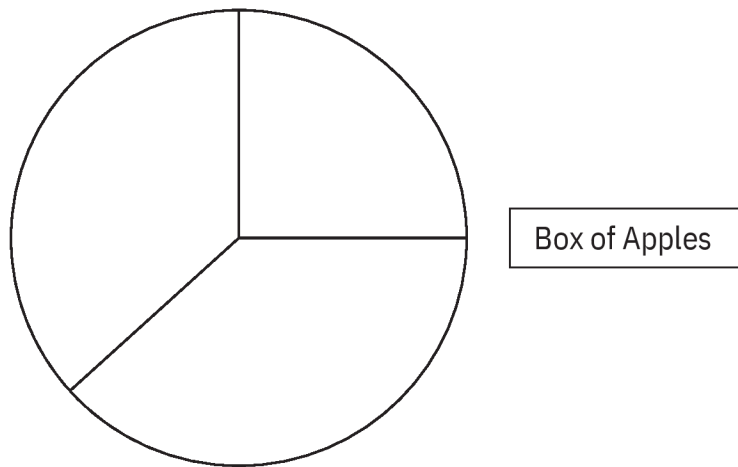   Does Sarah have enough money to buy 5 kg of potatoes?
    You must show how you get your answer.

(Total for Question 15 is 5 marks)

16   There are three different types of apples in a box.

The table gives the number of each type of apple .

Type of Apple	Number of Apples
Gala	60
Granny Smith	80
Fuji	100

Isabelle draws this pie chart for the information in the table.

Box of Apples

Write down two different things that are wrong or misleading with this pie chart.

1 ....

....

2 ....

....

(Total for Question 16 is 2 marks)

17 (a) Write 67 834 correct to 3 significant figures.

....

(1)

(b) Work out $\dfrac{(5.3 + 6.9) \times 2.7}{8.7 - 6.3}$

Give your answer as a decimal.

....
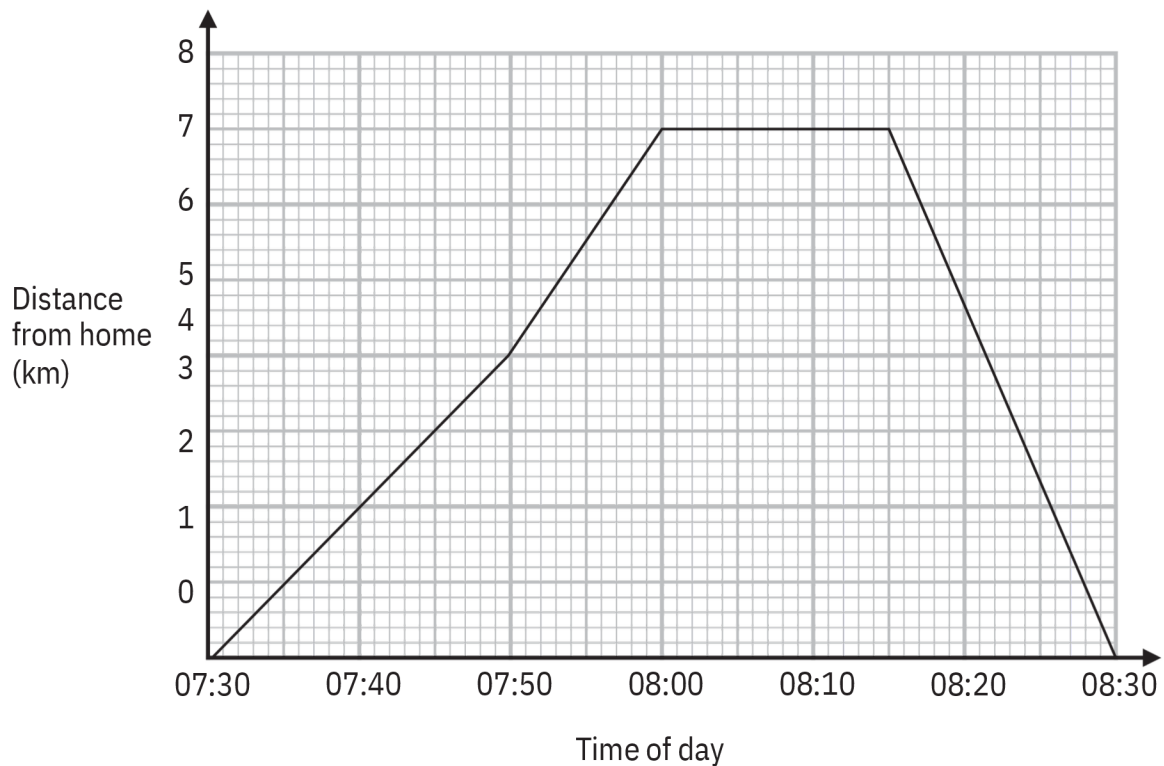
(2)

(Total for Question 17 is 3 marks)

18
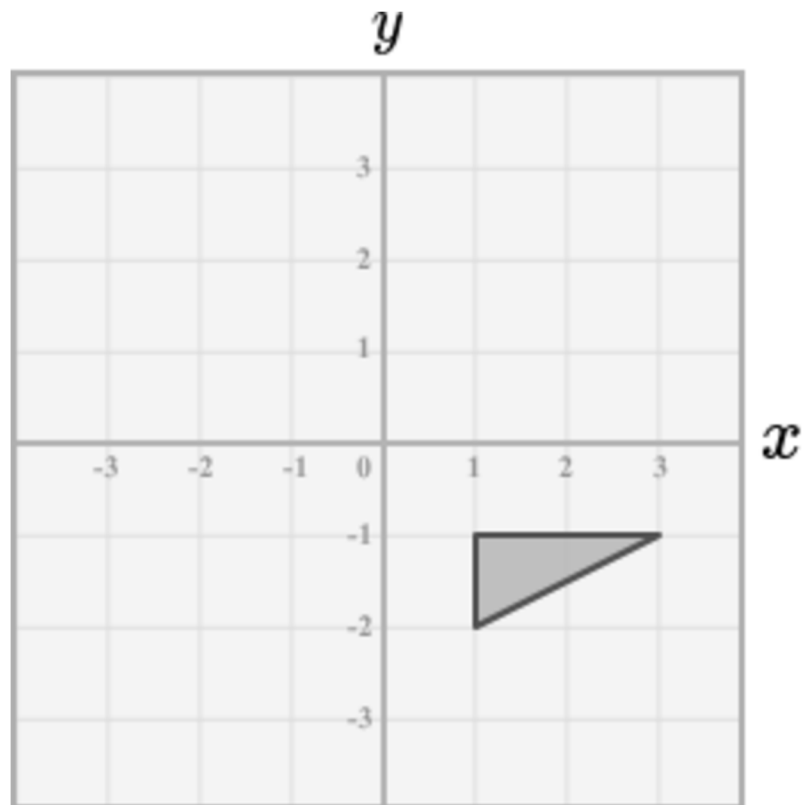
Rotate the shaded shape 180° about O

(Total for Question 18 is 2 marks)

19 Tom drives to his friend's house.
    He stays at his friend's house for some time and then drives back home.

    Here is the travel graph for his journey:

(a) For how many minutes did Tom stay at his friend's house?

....minutes
(1)

(b) How far is Tom from his home at 08: 20?

.... km
(1)

(c) Work out Tom's speed, in km/h, for the first 20 minutes of his journey.

.... km/h
(2)

(Total for Question 19 is 4 marks)

20   Here is a list of ingredients for making 12 muffins.

Ingredients for 12 Muffins

120 g butter
300 g   self-raising flour
50 g   sugar
2   eggs

Anna has

150 g butter
750 g self-raising flour
75 g sugar
4 eggs

Anna wants to make 30 muffins.

She has not got enough of some of the ingredients.

Work out how much more of each of these ingredients Anna needs.

(Total for Question 20 is 4 marks)

21 Make a the subject of the formula $p = 9a - 6$

....

(Total for Question 21 is 2 marks)

22 Sam has been asked to divide 150 in the ratio 2: 3

Here is his working.

$$150 \div 2 = 75 \qquad 150 \div 3 = 50$$

Sam's working is not correct.

Describe what Sam has done wrong.

....

....

....

(Total for Question 22 is 1 mark)

23 There are 250 students at a school who chose one sport to play.

Each student chose one sport from Football, Basketball, or Tennis.

Of the 250 students:

- 120 are boys, and the rest of the students are girls.
- 90 students chose Basketball.
- 70 of the 110 students who chose Football are boys.
- 25 girls chose Tennis.

Work out how many boys chose Basketball.

....

(Total for Question 23 is 3 marks)

24 Alex has 3 tanks on his farm.
Each tank is a cylinder with a diameter of 60 cm and a height of 120 cm.

←60 cm→

120 cm
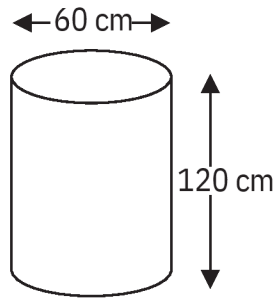
The tanks are to be filled completely with a mixture of liquid fertilizer and water.

The fertilizer must be mixed with water in the ratio of 1:50 by volume.

Alex has 15 litres of fertilizer.
1 litre = 1000 cm3

Has Alex enough fertilizer for the 3 tanks?
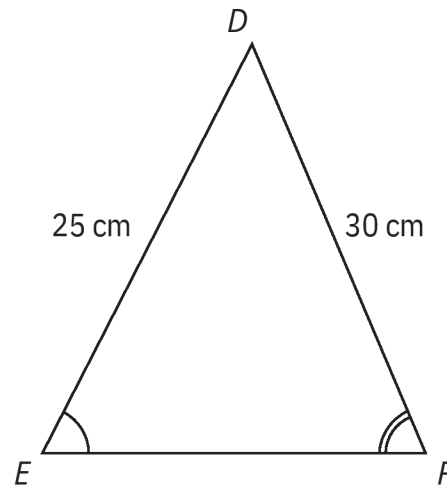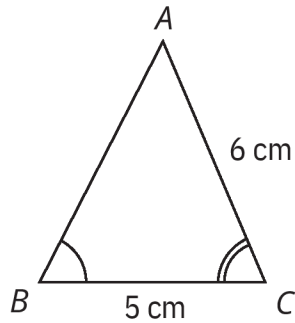You must show how you get your answer.

(Total for Question 24 is 4 marks)

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25 Triangle *ABC* and triangle *DEF* are similar.

(a) Work out the length of *EF*.

.... cm
(2)

(b) Work out the length of *AB*.
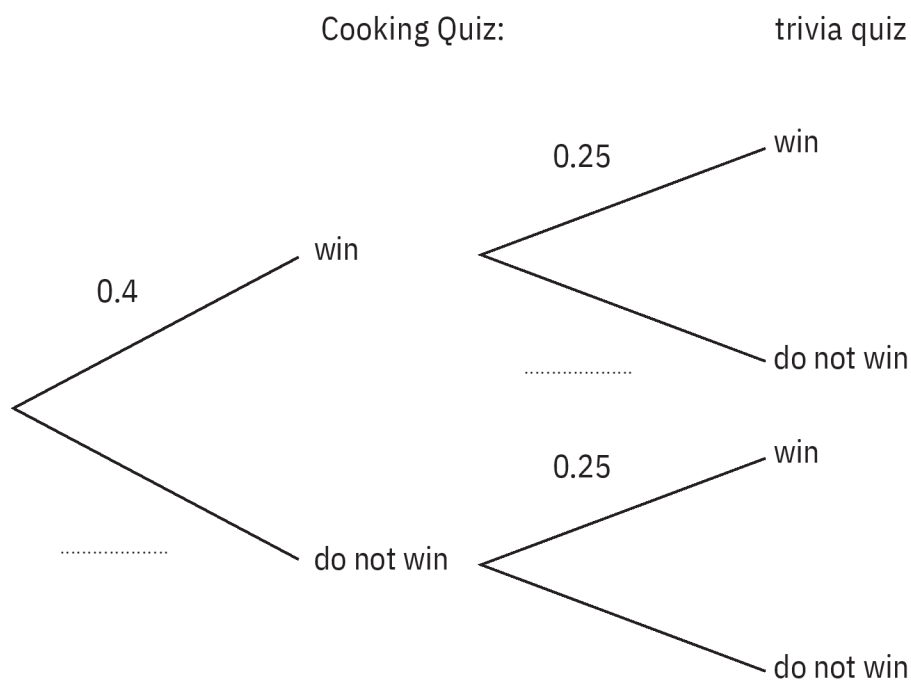
.... cm
(2)

(Total for Question 25 is 4 marks)

26 One weekend, the Thompson family is going to participate in a cooking quiz and a trivia quiz.

The probability that the family will win the cooking quiz is 0.4.

The probability that the family will win the trivia quiz is 0.25.

Cooking Quiz: trivia quiz

                                             0.25   win

                       win

0.4

                                       ....   do not win

                                             0.25   win

....   do not win

                                            ....   do not win

(2)

(b) Work out the probability that the Thompson family will win both the cooking quiz and the trivia quiz.

....

(2)

(Total for Question 26 is 4 marks)

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27 (a) Change 5000 cm3 to m3

.... m3
(1)

(b) Change a speed of 120 km per hour to metres per second.

.... metres per second
(3)

(Total for Question 27 is 4 marks)

28 There are 40 girls and 10 boys at a school.

The mean height of all 50 students is 160 cm.

The mean height of the 10 boys is 170 cm.

Work out the mean height of the 40 girls.

.... cm

(Total for Question 28 is 3 marks)

29   (a) Write 4.275×10^{-5} as an ordinary number.

....
(1)

(b) Work out $\dfrac{(1.75 \times 10^{8}) \times (6.42 \times 10^{-5})}{1.9 \times 10^{5}}$

Give your answer in standard form.

....
(2)

(Total for Question 29 is 3 marks)

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30    $a = \begin{pmatrix} 6 \\ 4 \end{pmatrix}$ $b = \begin{pmatrix} 3 \\ 5 \end{pmatrix}$ $c = \begin{pmatrix} 5 \\ 2 \end{pmatrix}$

(a) Work out as a column vector
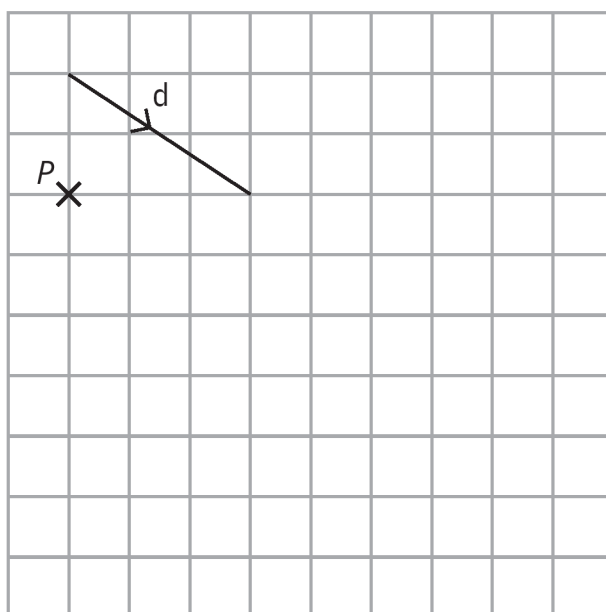
   (i) a + b

$\begin{pmatrix} \cdots \\ \cdots \end{pmatrix}$

(1)

   (ii) 4a − c

$\begin{pmatrix} \cdots \\ \cdots \end{pmatrix}$

(2)

The vector d is drawn on the grid.

(b) From the point P, draw the vector 3d

(1)

(Total for Question 30 is 4 marks)

TOTAL FOR PAPER IS 80 MARKS