GCSE (9-1) Mathematics

J560/02 Paper 2 (Foundation Tier)

Question Set 5

1. **(a)** Work out.

(i) ⁻1 + 6

(a)(i) .... [1]

(ii) 7 − ⁻3

(ii) .... [1]

(b) Write down two prime numbers between 10 and 20.

(b) .... and .... [2]

2. **(a)** Write 0.16 as a fraction in its simplest form.

(a) .... [2]

(b) Write $\dfrac{7}{20}$ as a decimal.

(b) .... [2]

3. (a) Write down the mathematical name of each of these shapes.

(i) A triangle with 3 equal sides.

(a)(i) .... triangle [1]

(ii) A quadrilateral with 4 equal sides and no right angles.

(ii) .... [1]

(b) Here is a rectangle.

(i) On the diagram, draw the rectangle's two lines of symmetry. [1]

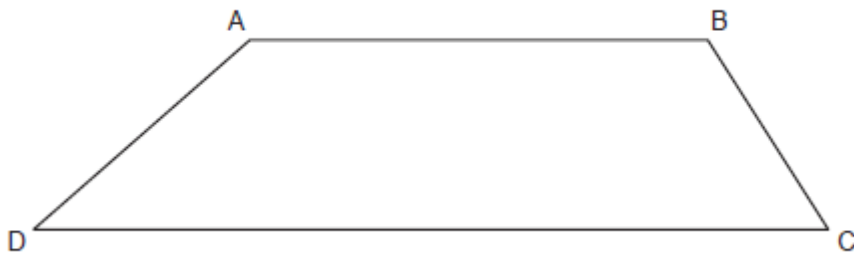(ii) The rectangle has rotation symmetry of order 2.

Amaya says

A rectangle is the only quadrilateral that has rotation symmetry of order 2.

Is she correct?
Show how you decide.

.... [2]

(c) Add the correct symbols to this diagram to show that line AB is parallel to line DC.

A ——————————— B

D ——————————— C

[1]

4. Clara travels from her home to Stoke.

The distance from her home to Stoke is 100 miles.
She travels at an average speed of 50 miles per hour.
She stops for 20 minutes on the journey.

Clara arrives in Stoke at 10:10 am.

At what time did she leave home?

.... [4]

5. Write each of the following ratios in their simplest form.

(a) 12 : 15

(a) .... : .... [1]

(b) 600g : 1.8kg

(b) .... : .... [3]

6. (a) Simplify.

$4a - 2b - 2a + 5b$

(a) .... [2]

(b) (i) Multiply out.

$4(x + 3)$

(b)(i) .... [1]

(ii) Multiply out and simplify.

$(x + 5)(x - 2)$
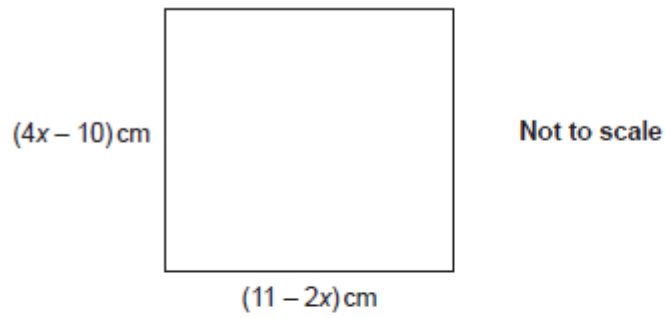
(ii) .... [2]

7.   A jacket has its price reduced by 20% in a sale.
The sale price is £56.

Work out the price of the jacket before the sale.

£ .... **[3]**

8. The diagram shows a square.

$(4x - 10)\,\text{cm}$

$(11 - 2x)\,\text{cm}$

Not to scale

By setting up and solving an equation, show that the perimeter of the square is numerically equal to the area of the square.

.... **[6]**

9. Dora has the following number cards.

| 2 | 2 | 3 | 5 | 6 |

She takes a card at random, replaces the card and then takes a second card.
She adds the numbers on the two cards she has taken and records the total.

(a) Complete the following table to show all of her possible totals.

First card

	Total	2	2	3	5	6
	2	4	4	5	7	8
	2	4	4	5		8
Second card	3	5	5		8	9
	5	7		8	10	11
	6	8	8	9	11	12

[1]

(b) Find the probability that her total is

   (i) an even number,

(b)(i) .... [2]

   (ii) a multiple of 3 or 4.

(ii) .... [2]

10. Charlie and Jasmine share cartons of apple juice.

Charlie drinks $\frac{1}{3}$ of a carton every day.

Jasmine drinks $\frac{2}{5}$ of a carton every day.

Any apple juice left in a carton at the end of the day is used the following day.

The cost of a carton is 70p.
Charlie and Jasmine buy just enough cartons to last them for 10 days.

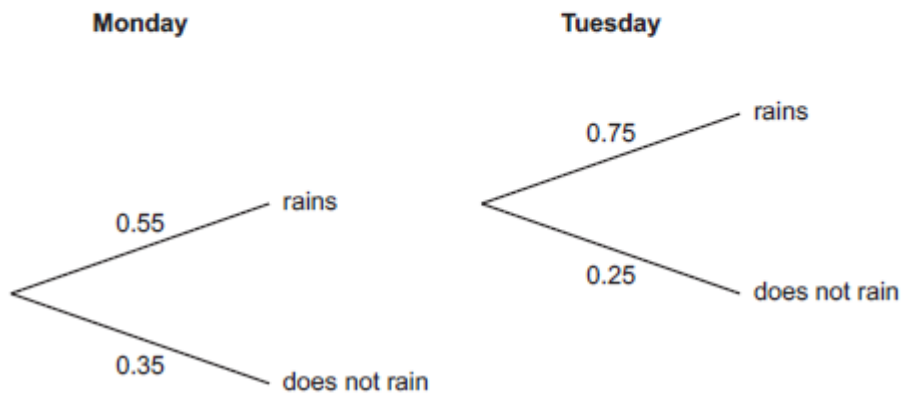How much do they spend in total for these cartons?
Give your answer in £.
Show your working.

£ .... **[6]**

11. A weather forecast says

- the probability that it will rain on Monday is 0.55

and

- the probability that it will rain on Tuesday is 0.25.

Ella draws a tree diagram to show this information.

Write down three errors that Ella has made with her tree diagram.

1 ....

....

2 ....

....

3 ....

....

[3]

Total Marks for Question Set 5: 50