

GCSE (9-1) Mathematics
J560/02 Paper 2 (Foundation Tier)

Question Set 1

1. (a) (i) Work out.

(a) 0.7×0.3

(a) [1]

(b) (b) $0.48 \div 6$

(b) [1]

2. (a) (i) Complete each statement.

(i) $\frac{3}{7} = \frac{\dots\dots}{28}$ [1]

(ii) $4\frac{1}{2} = \frac{\dots\dots}{2}$ [1]

(b) Work out.

$$\frac{2}{3} - \frac{1}{5}$$

(b) [2]

3. (a) (i) Complete the following.

(i) $5^2 = \dots\dots\dots$ [1]

(ii) (ii) $\sqrt[3]{64} = \dots\dots\dots$ [1]

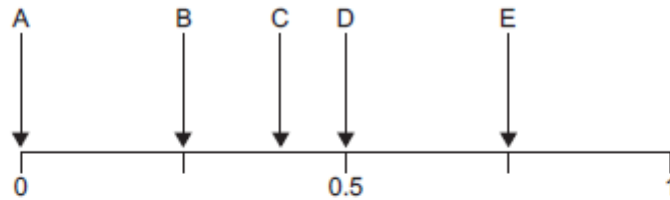
(b) Work out $2^3 \times \sqrt{49}$.

(b) [2]

4. (a) (i) Darren has these 20 crayons in a box:

- 8 blue
- 4 red
- 5 black
- 3 green.

(a) He chooses a crayon at random from the box.



Which arrow shows the probability that this crayon is

(i) blue,

(a)(i) Arrow [1]

(ii) yellow,

(ii) Arrow [1]

(iii) (iii) not black.

(iii) Arrow [1]

(b) Darren buys 16 more crayons that are either blue or red.
He puts these in the box with the 20 crayons he already has.

He now picks a crayon at random from the box.
The probability that he picks a **blue** crayon is evens.

How many **red** crayons did he buy?

(b) [3]

5 (a) (i) (a) Simplify fully.

(i) $3t + 5u - 2t + 3u$

(a)(i) [2]

(ii) $6a \times 2a^2$

(ii) [2]

(b) Make x the subject of the formula $y = x^2 - 1$.

(b) [2]

6 (a)

Rashid is making cupcakes using these ingredients.

| |
|---|
| <p style="text-align: center;">Cupcake ingredients</p> <p style="text-align: center;"><i>Makes 20 cupcakes</i></p> <p>120g flour</p> <p>140g butter</p> <p>4 eggs</p> <p>60g cocoa powder</p> <p>50ml of water</p> |
|---|

(a) How many eggs does he need to make 60 cupcakes?

(a) [1]

(b) How much butter is needed to make 5 cupcakes?

(b) g [2]

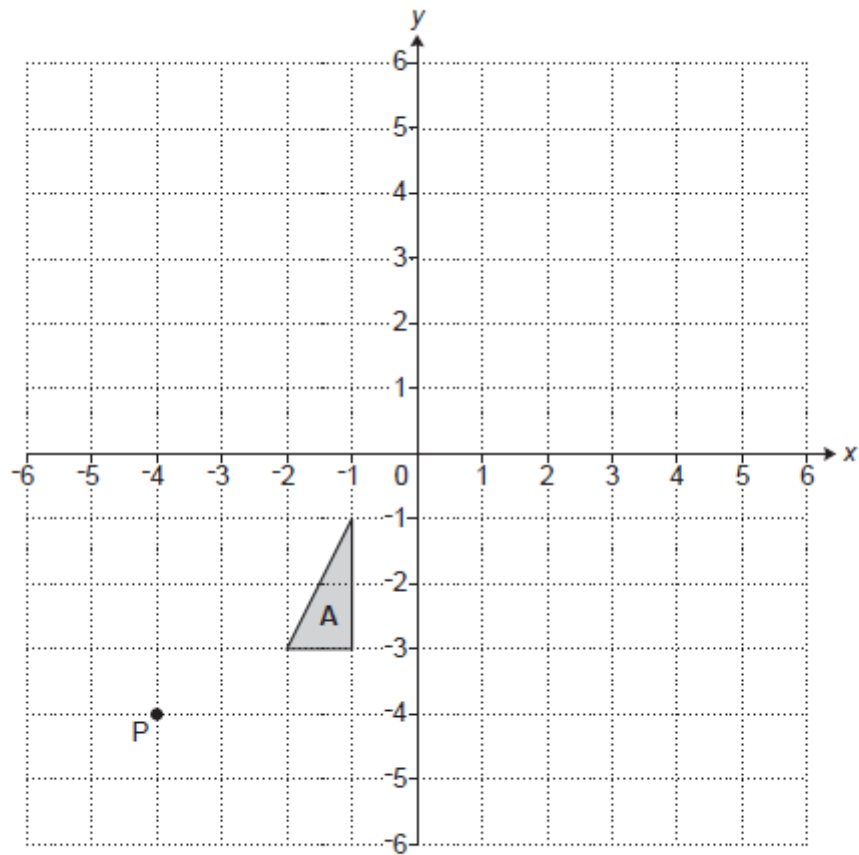
(c) Rashid has 210g of cocoa powder and plenty of the other ingredients.
He says that he can make at least 75 cupcakes.

Is he correct?
Explain your reasoning.

[2]

..... [3]

- 7 (a) Triangle **A** is drawn on the grid below.



- (a) Enlarge triangle **A** with scale factor 3 from the centre of enlargement **P**.
Label the image **B**.

[3]

- (b) Describe fully the **single** transformation that maps triangle **B** onto triangle **A**.

.....
..... [3]

- 8 (a) A sunflower grows at a rate of 4 cm each day.

How many days does it take to grow from a height of 80 cm to more than 1.06 m?

(a) [3]

(b) If the sunflower grows at a faster rate, how would this affect your answer to part (a)?

..... **[1]**

9.

Adam buys some theatre tickets in a sale.

The normal prices are:

£80 for each adult
£40 for each child.

In the sale, the prices are reduced by 15%.

Adam buys 2 adult tickets and 1 child ticket at the sale price.
A 2% booking fee is then added to the total cost of the tickets.

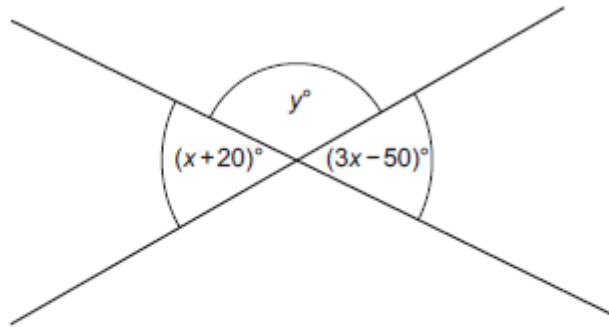
Calculate the total amount that Adam must pay.



£ [6]

10.

The diagram shows two intersecting straight lines.



Not to scale

Find the value of y .

$y = \dots\dots\dots$ [6]

Total Marks for Question Set 1: 50

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