

GCSE MATHEMATICS

Name:

Practice Paper Foundation 2

Maximum marks: 76

Calculator

Time allowed: 1 hour 30 minutes

These questions are from past papers covering topics and skills based on the advance information to help you prepare for the exams this summer.

Answer all questions in the spaces provided.

- 1 How many minutes are there in $3\frac{1}{2}$ hours?

Circle your answer.

180.5

210

330

350

(Total 1 marks)

- 2 Circle the fraction that is equal to $2\frac{1}{4}$

$\frac{7}{4}$

$\frac{9}{4}$

$\frac{21}{4}$

$\frac{25}{4}$

(Total 1 mark)

- 3 Circle the decimal that is closest in value to $\frac{39}{800}$

0.04

0.048

0.049

0.05

(Total 1 mark)

- 4 x is greater than 5 **and** less than or equal to 9

Circle the inequality that shows this.

$5 \leq x < 9$

$5 > x \geq 9$

$5 \leq x > 9$

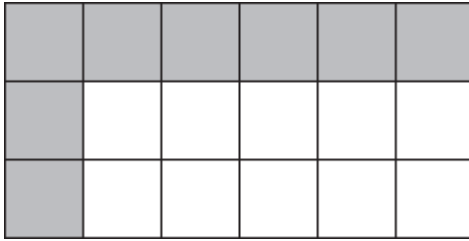
$5 < x \leq 9$

(Total 1 mark)

5 How much of each shape is shaded?

Tick the correct box.

(a)



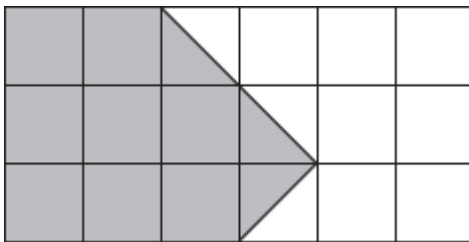
Less than $\frac{1}{2}$

Exactly $\frac{1}{2}$

More than $\frac{1}{2}$

(1)

(b)



Less than $\frac{1}{2}$

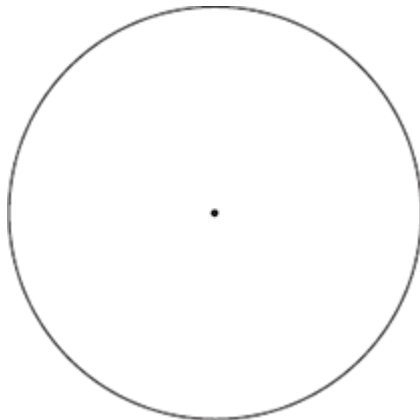
Exactly $\frac{1}{2}$

More than $\frac{1}{2}$

(1)

(Total 2 marks)

6 Measure the diameter of the circle in centimetres.



Answer _____ cm

(Total 1 mark)

- 7 In this question you may **only** use the signs + and ×
 Put signs into each calculation so that the answer is a multiple of 5
 Show three different ways of doing this.
 Give the answer for each calculation.

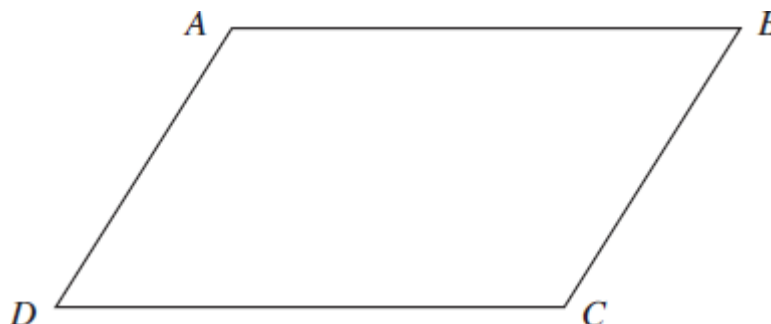
$$1 \square 2 \square 3 \square 4 = \square$$

$$1 \square 2 \square 3 \square 4 = \square$$

$$1 \square 2 \square 3 \square 4 = \square$$

(Total 3 marks)

- 8 Here is a parallelogram.



Tick a box to show whether each statement is true or false.

	True	False
<i>AB</i> is parallel to <i>DC</i>	<input type="checkbox"/>	<input type="checkbox"/>
Angle <i>A</i> = Angle <i>C</i>	<input type="checkbox"/>	<input type="checkbox"/>
The parallelogram has 2 lines of symmetry.	<input type="checkbox"/>	<input type="checkbox"/>
The parallelogram has rotational symmetry of order 2.	<input type="checkbox"/>	<input type="checkbox"/>

(Total 3 marks)

9 (a) Circle the expression that is equivalent to $4 \times x$

x^4 $4x$ 4^x $x \times x \times x \times x$

(1)

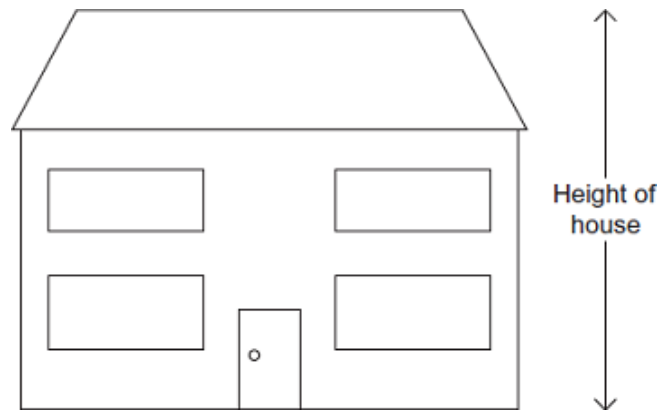
(b) Circle the expression that is equivalent to $a + b$

$b + a$ ab ba $2ab$

(1)

(Total 2 marks)

10 Here is a scale drawing of the front of a house.



The actual height of the door is 2 metres.
Work out the actual height of the house.

Answer _____ metres

(Total 3 marks)

11 I am thinking of three positive numbers.

The mode is 5

The median is 5

The range is 9

Work out the three numbers.

Answer _____ , _____ , _____

(Total 2 marks)

12 A line has the equation $y = 4x - 5$

(a) What is the gradient of the line?
Circle your answer.

-5 -4 4 5

(1)

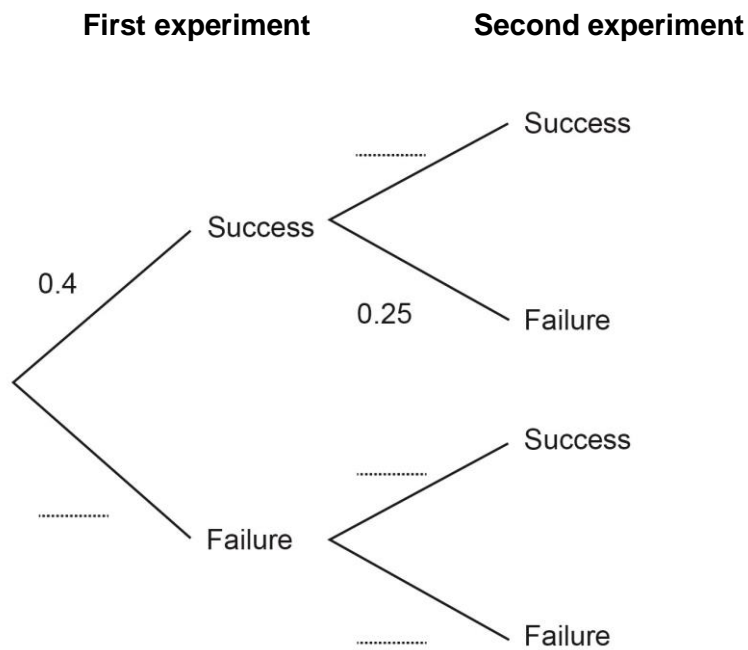
(b) What is the y-intercept of the line?
Circle your answer.

-5 -4 4 5

(1)

(Total 2 marks)

13 (a) The outcomes of two independent experiments are success and failure.
Complete the tree diagram.



(2)

(b) Work out the probability of success in **both** experiments.

Answer _____

(2)

(Total 4 marks)

14 Here are two offers for batteries.

<p>OFFER A</p> <p>Pack of 4</p> <p>£2.52</p> <p>$\frac{1}{3}$ off</p>

<p>OFFER B</p> <p>Pack of 5</p> <p>£2.75</p> <p>Pay for 3 packs get 1 free</p>

Zak wants to buy 40 batteries.

Which is the cheaper offer?

You **must** show your working.

Answer _____

(Total 5 marks)

15 (a) Fill in the **two** missing numbers in this sequence.

2 5 11 20 ____ 47 ____

(2)

(b) A different sequence has second term 2 and third term 4.

____ 2 4 ____

Write down a possible rule for continuing the sequence.

Write down the first and fourth terms of the sequence using your rule.

Answer _____ and _____

(2)

(Total 4 marks)

16 Work out $\frac{1}{4} + 0.5$

Circle your answer.

0.30

0.6

0.75

0.9

(Total 1 mark)

17 (a) Write down a cube number.

Answer _____

(1)

(b) Write down a prime number.

Answer _____

(1)

(c) Write down a number that is a factor of 900

Answer _____

(1)

(Total 3 marks)

18 (a) Factorise $x^2 - x$

Answer _____

(1)

(b) Multiply out and simplify $5x(x - 3) - 8x$

Answer _____

(3)

(Total 4 marks)

19 Abby and Judy share some money.

Abby gets 25%

(a) Write Abby's share : Judy's share as a ratio.

Give your answer in its simplest form.

Answer _____ : _____

(2)

(b) Judy gets £19.50

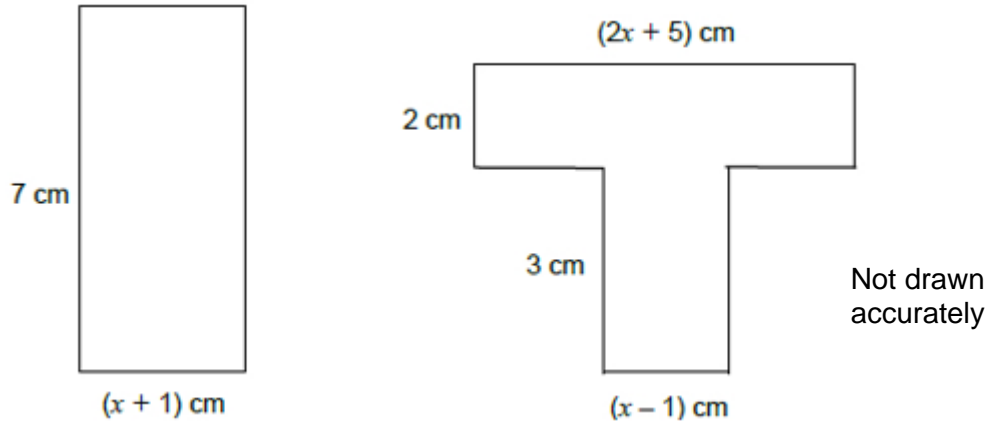
How much does Abby get?

Answer £ _____

(2)

(Total 4 marks)

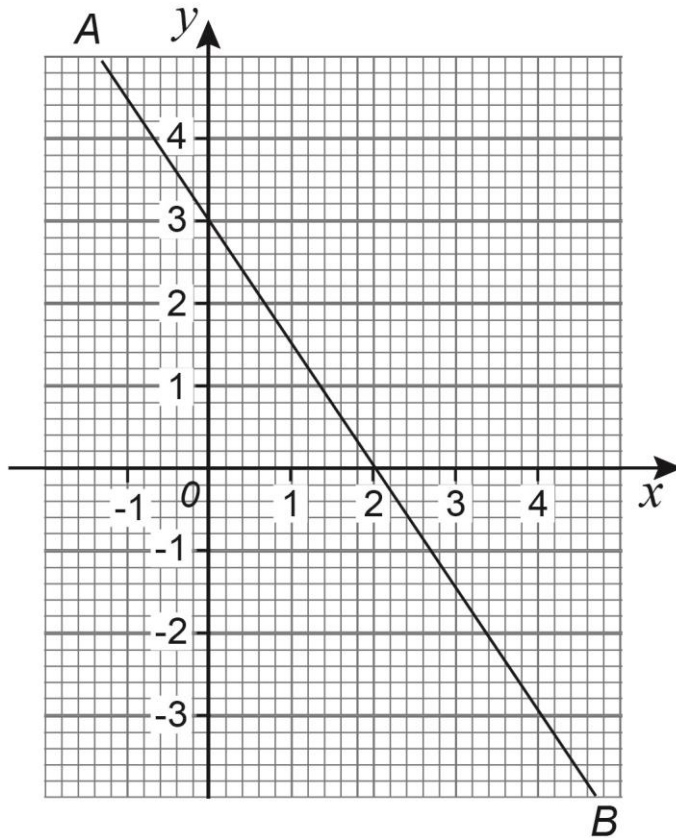
20 Here is a rectangle and a T-shape made from two rectangles.



Show that the rectangle and the T-shape have the same area.

(Total 4 marks)

21 (a) Work out the equation of line AB .



Answer _____

(3)

(b) Work out the equation of the line passing through $(2, -3)$ and parallel to the line $y = 3x + 4$

Answer _____

(2)

(Total 5 marks)

- 22 A biased coin is thrown 250 times.
The relative frequency of Heads is worked out after every 50 throws.

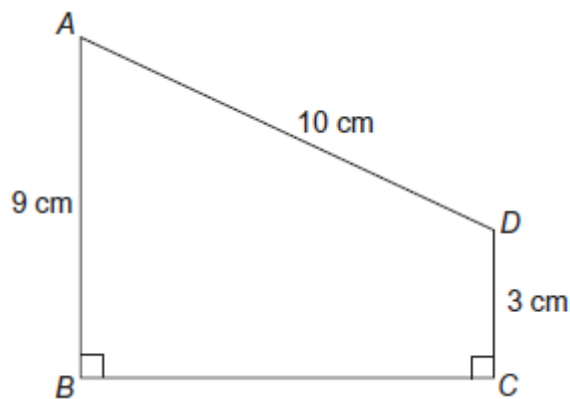
Total number of throws	50	100	150	200	250
Relative frequency	0.4	0.29	0.4	0.32	0.3

Circle the best estimate of the probability of Heads.

0.3 0.32 0.342 0.4

(Total 1 mark)

- 23 $ABCD$ is a trapezium.



Not drawn accurately

Work out the length of BC .

You **must** show your working.

Answer _____ cm

(Total 4 marks)

24 The table shows the scores of 20 students in a test.

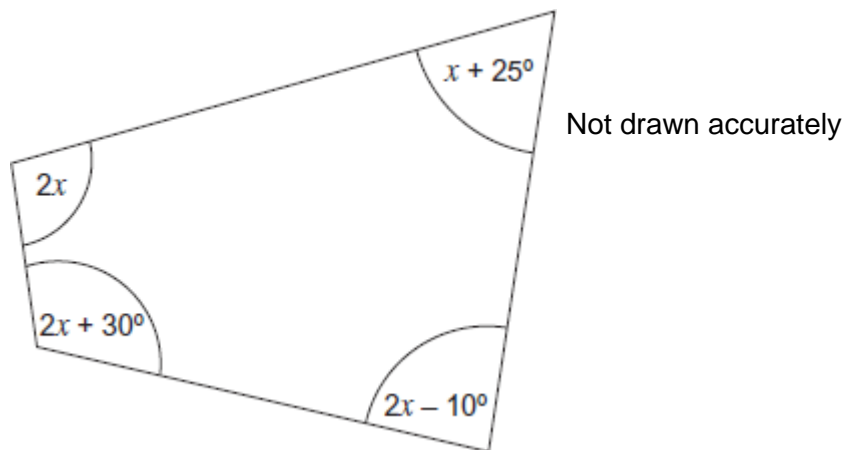
Score	Frequency
7	6
8	9
9	4
10	1
Total	20

Work out the mean score.

Answer _____

(Total 3 marks)

25 The diagram shows a quadrilateral.

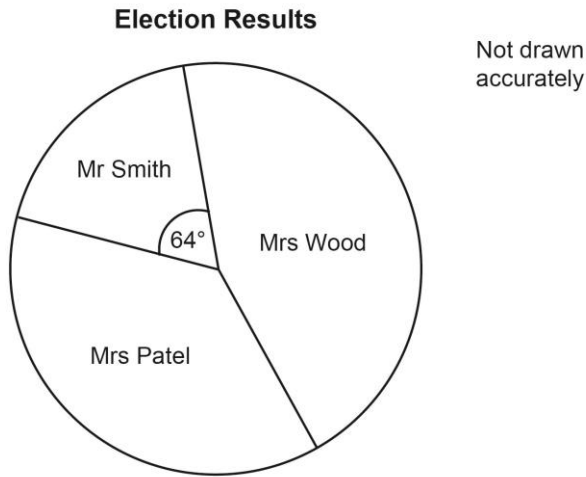


Work out the value of x .

Answer $x =$ _____ degrees

(Total 4 marks)

26 The pie chart shows some information about the share of votes for candidates in an election.



The angle for Mrs Wood would be 24° more than the angle for Mrs Patel.
There were 5220 votes in total.
Work out the number of votes for Mrs Patel.

Answer _____

(Total 4 marks)

27 $1000 \text{ cm}^3 = 1 \text{ litre}$

A tank contains $45\,000 \text{ cm}^3$ of water.

The tank leaks at $0.75 \text{ litres/minute}$.

How long does the tank take to empty? State the units of your answer

Answer _____

(Total 4 marks)