

Year 10 Foundation Maths Practice Paper 2

This paper covers: Percentages, Work with fractions, Non-calculator methods, Algebraic manipulation, Quadratic expressions and equations, Straight line graphs, Graphs and diagrams, Probability, Ratio and scale, Perimeter, area and volume, Vectors.

TIME ALLOWED

40 minutes

TOTAL MARKS

31

QUESTIONS

26

Name _____

Class _____ Date _____

INSTRUCTIONS

- Use black ink or a black ball-point pen.
- Answer every question in the space given.
- You may use a calculator.
- Show your working. Some marks are given for a correct method, even when the answer is wrong.

INFORMATION

- The marks for each question are shown in brackets, for example [1 mark].
- The questions start easier and get harder as you go.
- Diagrams are not drawn accurately unless the question says so.
- Check your answers if you have time at the end.

FOR THE MARKER

 Score _____ **out of 31**

Percentage _____ %

01 Questions

Answer every question. Show your working.

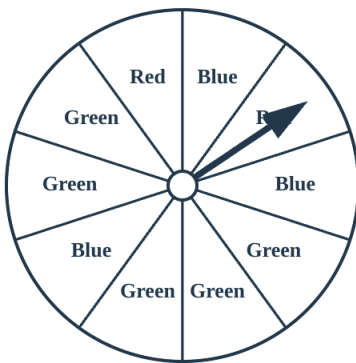
1 Find 23% of 840.

[1 mark]

ANSWER

2 The spinner has 10 equal sectors. What is the probability it lands on blue? Give a fraction in its simplest form. Write your answer as a fraction.

[1 mark]



ANSWER

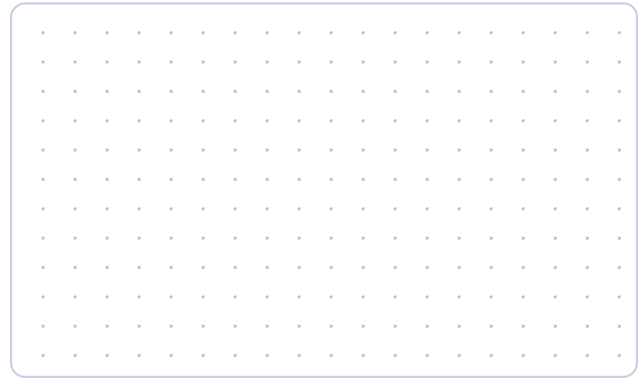
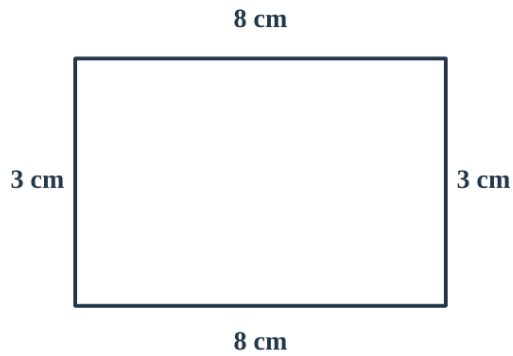
3 The bar has 14 equal shares. Cut it in the ratio 6 : 8, the first share on the left. Draw the line that cuts the bar.

[1 mark]

6 : 8

[illegible]

- 4 All four sides are marked. What is the distance around this rectangle in centimetres? [1 mark]



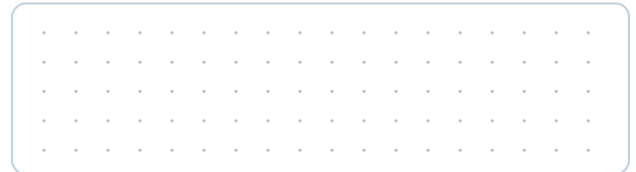
ANSWER

- 5 Shade the part of this bar that shows $\frac{2}{3}$ of the whole. [1 mark]



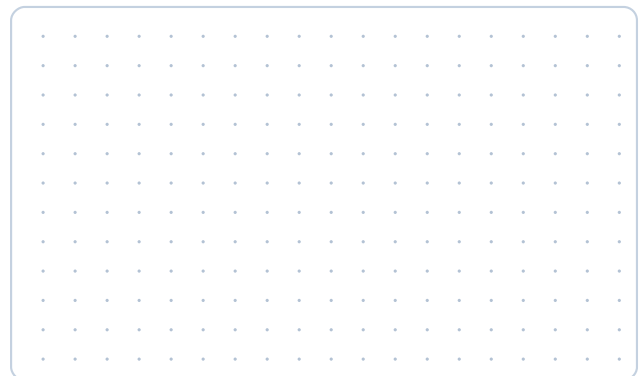
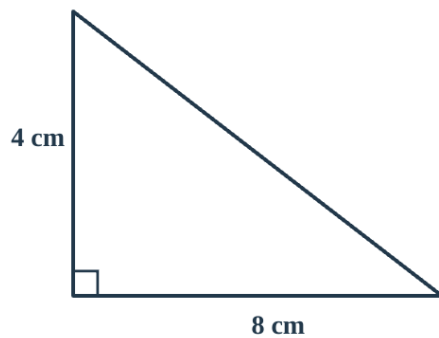
- 6 The grid lists every outcome of the coin and the dice. How many outcomes are there? [1 mark]

Coin	Dice					
	1	2	3	4	5	6
H	H, 1	H, 2	H, 3	H, 4	H, 5	H, 6
T	T, 1	T, 2	T, 3	T, 4	T, 5	T, 6



ANSWER

- 7 What is the area of this right-angled triangle in square centimetres? [1 mark]



ANSWER

- 8 Each equal share of this bar is worth 3. Cut the bar after the shares worth 9 altogether. Draw the line that cuts the bar. [1 mark]

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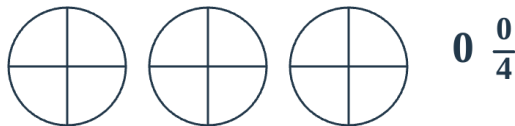
- 9 A coin was flipped and the results tallied. How many flips were there altogether? [1 mark]

Result	Tally	Frequency
Heads		10
Tails		10

.

ANSWER

- 10 Shade the circles to show $\frac{10}{4}$. Each circle is cut into quarters. Shade the objects. [1 mark]



- 11 Build $4(3x + 4)$ with tiles: 4 rows of $3x + 4$. What single expression do the tiles make? Draw the tiles. [1 mark]



- 12 Which single multiplier increases an amount by 60%? [1 mark]

.

ANSWER

- 13 Which of these shapes is a square? Circle the one you choose. [1 mark]

14 Use the written layout to work out this calculation.

[2 marks]

$$\begin{array}{r} 26.67 \\ - 5.58 \\ \hline \end{array}$$

Below the horizontal line are five dashed boxes for the answer:

ANSWER

15 A negative value goes in with its sign. What is the value shown on the board?

[1 mark]

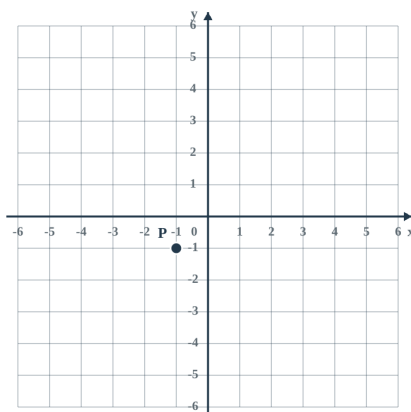
$x = -1$

$$6 - 2x$$

ANSWER

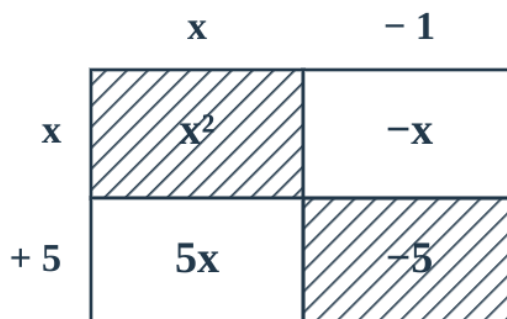
16 Draw the vector $(-1, 2)$ starting at P. Draw the vector from the marked point.

[1 mark]



- 17 The grid multiplies $(x + 5)(x - 1)$. Which is the expanded and simplified result? Circle your answer. [1 mark]
- ☐ $x^2 + 4x - 5$
☐ $x^2 - 6x - 5$
☐ $x^2 + 4x + 5$

$$(x + 5)(x - 1)$$



- 18 50 children chose Banana, which needs a half picture. Draw the row, where each picture stands for 20. Draw the symbols in the row. [1 mark]

Apple



Banana

Grapes



Pear



Key: each circle stands for 20 children

- 19 Apples and pears are mixed in the ratio 5 : 2. Cut the bar with apples on the left. Draw the line that cuts the bar. [1 mark]

5 : 2



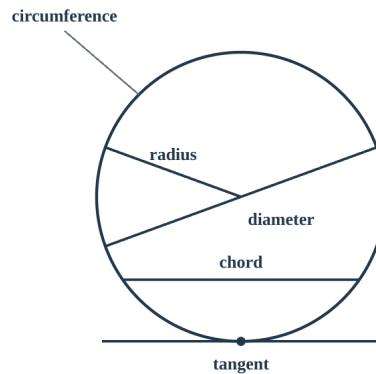
- 20** Sort each name by whether it is a straight line or part of the curve. Write each item under the right heading.

[2 marks]

radius chord circumference diameter tangent arc

A straight line

Part of the curve



- 21 A 4-sided spinner and a dice are added together. In the grid of totals, how many outcomes give 5?

[2 marks]

Spinner	Dice					
	1	2	3	4	5	6
1	2	3	4	5	6	7
2	3	4	5	6	7	8
3	4	5	6	7	8	9
4	5	6	7	8	9	10



ANSWER

- 22** Which is larger, $\frac{5}{8}$ of 88 or $\frac{4}{9}$ of 54? Circle your answer.

[1 mark]

□ $\frac{4}{9}$ of 54

☐ $\frac{5}{8}$ of 88

☐ They are equal

- 23** A spinner lands on red, blue or green. Red and blue are equally likely and the probability of green is 0.4. What is the probability of red? Give a decimal.

[2 marks]

ANSWER

[2 marks]

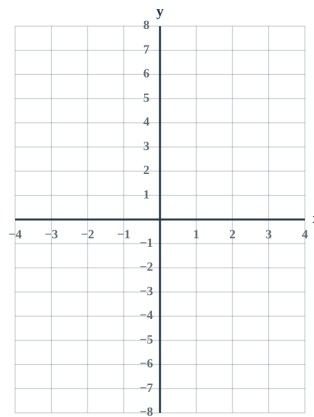
[1 mark]

- 8 out of 20

30 out of 60

☐ They are equal

[1 mark]



Practice Paper 2

FOR THE MARKER

The marks for every question, the answers to accept and what to award for part of an answer. 31 marks in total.

1	193.2	[1 mark]
2	$\frac{3}{10}$	[1 mark]
3	6 of the 14 shares <i>Award the mark when the drawing or marking matches the answer shown.</i>	[1 mark]
4	22 cm	[1 mark]
5	2 of the 3 parts shaded <i>Award the mark when the drawing or marking matches the answer shown.</i>	[1 mark]
6	12	[1 mark]
7	16 square centimetres	[1 mark]
8	3 of the 5 shares <i>Award the mark when the drawing or marking matches the answer shown.</i>	[1 mark]
9	20	[1 mark]
10	10 of the 12 <i>Award the mark when the drawing or marking matches the answer shown.</i>	[1 mark]
11	12 x tiles and 16 unit tiles <i>Award the mark when the drawing or marking matches the answer shown.</i>	[1 mark]
12	1.6	[1 mark]
13	the third one <i>Award the mark when the drawing or marking matches the answer shown.</i>	[1 mark]
14	21.09 <i>Award 2 marks for the correct answer. Award 1 mark for a correct method with no more than one arithmetic error.</i>	[2 marks]
15	8	[1 mark]

16	-1 along and 2 up	[1 mark]
Award the mark when the drawing or marking matches the answer shown.		
17	$x^2 + 4x - 5$	[1 mark]
Award the mark for the correct choice only. Two or more choices marked scores no mark.		
18	2 and a half symbols	[1 mark]
Award the mark when the drawing or marking matches the answer shown.		
19	5 of the 7 shares	[1 mark]
Award the mark when the drawing or marking matches the answer shown.		
20	radius: A straight line; chord: A straight line; circumference: Part of the curve; diameter: A straight line; tangent: A straight line; arc: Part of the curve	[2 marks]
Award 2 marks when every part is correct. Award 1 mark when there is exactly one error.		
21	4	[2 marks]
Award 2 marks for the correct answer. Award 1 mark for a correct method with no more than one arithmetic error.		
22	$\frac{5}{8}$ of 88	[1 mark]
Award the mark for the correct choice only. Two or more choices marked scores no mark.		
23	0.3	[2 marks]
Award 2 marks for the correct answer. Award 1 mark for a correct method with no more than one arithmetic error.		
24	£44.37	[2 marks]
Award 2 marks for the correct answer. Award 1 mark for a correct method with no more than one arithmetic error.		
25	30 out of 60	[1 mark]
Award the mark for the correct choice only. Two or more choices marked scores no mark.		
26	$(-1, -3), (1, 1), (2, 3)$	[1 mark]
Award the mark when the drawing or marking matches the answer shown.		

Total

31 marks