

Year 8 Maths Practice Paper 1

This paper covers: Multiply and divide fractions, Percentages, Algebraic manipulation, Coordinates and graphs, Graphs and charts, Tables and probability, Ratio, Symmetry and reflection, Area, volume and density, Angles in parallel lines and polygons, Circles.

TIME ALLOWED
40 minutes
TOTAL MARKS
33
QUESTIONS
24

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 33**

Percentage _____ %

01 Questions

Answer every question. Show your working.

- 1** For the line $y = x + 3$, what is y when $x = 1$?

[1 mark]

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ANSWER

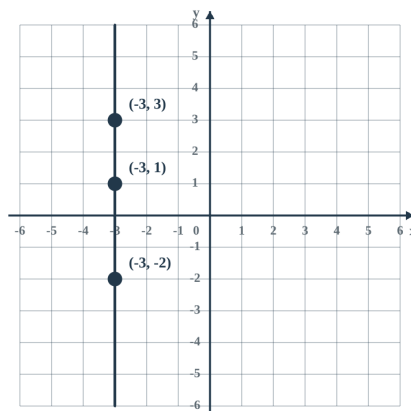
- 2** Three points on the line are marked. What do their x -coordinates have in common?
Circle your answer.

[1 mark]

☐ They are all -3

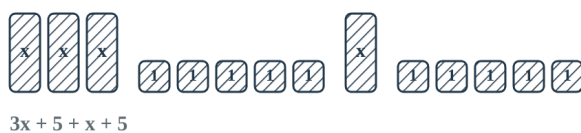
☐ They are all 3

☐ They are all different



- 3** The tiles show an expression. How many x tiles are there altogether?

[1 mark]



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ANSWER

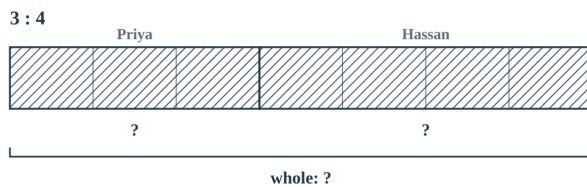
- 4 The chart shows favourite fruit. How many children are in the Grapes row? [1 mark]



Key: each circle stands for 5 children

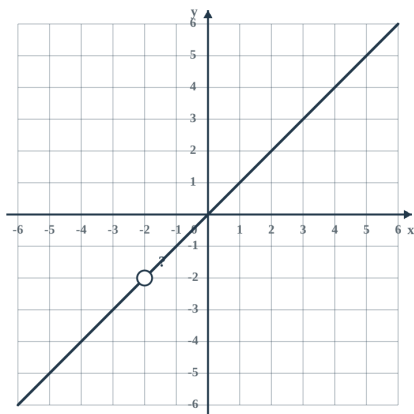
ANSWER

- 5 Priya and Hassan share 14 marbles in the ratio 3 : 4. The bar shows the shares. How many equal parts is it cut into? [1 mark]



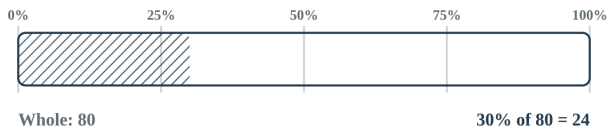
ANSWER

- 6 The line $y = x$ is drawn. What is the y-coordinate of the marked point? [1 mark]



ANSWER

- 7 The bar stands for £80, the price before a sale. The filled part is the 30% taken off. [1 mark]
What is the sale price?



ANSWER

- 8 $\frac{1}{9}$ multiplied by a whole number gives $\frac{7}{9}$. What is the whole number? [1 mark]

ANSWER

- 9 Write the decimal 0.6 as a percentage. [1 mark]

ANSWER

- 10 $\frac{5}{6}$ multiplied by a fraction gives $\frac{5}{12}$. What is the missing fraction? Write your answer as a fraction. [1 mark]

ANSWER

- 11 A fair dice is rolled. Where on the scale from 0 to 1 does rolling a square number sit? [1 mark]
Give a fraction in its simplest form. Write your answer as a fraction.

ANSWER

- 12 Which of these are like terms with $2x$, and which are not? Write each item under the right heading. [2 marks]

x $6y$ $2x^2$ 4 $-2x$ $2x$

Like terms with $2x$

Not like terms

- 13 $\frac{2}{3} \times ? = 1$. What fraction is missing? Write your answer as a fraction. [1 mark]

ANSWER

- 14 A parallelogram has a base of 6 centimetres and a perpendicular height of 7 centimetres. What is its area in square centimetres? [1 mark]

ANSWER

15 $4x + 9$ has the value 21. What is x ? [1 mark]

ANSWER

16 What is the order of rotational symmetry of a rhombus? [1 mark]

ANSWER

17 Match each flat shape to its name. Draw a line from each item on the left to its match on the right. [1 mark]

18 A mixture uses red and blue in the ratio 4 : 3. It contains 15 blue. How much red is in it? [3 marks]

ANSWER

19 A circle has a diameter of 16 centimetres. How long is its radius, in centimetres? [2 marks]

ANSWER

- 20** A guitar costs £180. In a sale, 50% is taken off the price. How much money is taken off? [3 marks]

ANSWER

- 21** Ellie and Ava share the cost of a present in the ratio 3 : 4. Ava pays £16. How much does Ellie pay? [3 marks]

ANSWER

- 22** One counter is picked without looking. From which bag is a red counter most likely? Circle your answer. [1 mark]

☐ From a bag of 5 red and 1 blue

☐ From a bag of 2 red and 3 blue

☐ From a bag of 5 red and 3 blue

- 23** The chance that a train is late is 22%. What is the chance it is not late, as a percentage? [2 marks]

ANSWER

- 24** Mia says two co-interior angles are equal, so if one is 68 degrees the other is 68 degrees too. What is wrong? Circle your answer. [1 mark]

☐ Nothing, she is right

☐ Co-interior angles add up to 90, so the other is 22 degrees

☐ Co-interior angles add up to 180, so the other is 112 degrees

Practice Paper 1

FOR THE MARKER

The marks for every question, the answers to accept and what to award for part of an answer. 33 marks in total.

1	4	[1 mark]
2	They are all -3 <i>Award the mark for the correct choice only. Two or more choices marked scores no mark.</i>	[1 mark]
3	4	[1 mark]
4	10	[1 mark]
5	7	[1 mark]
6	-2	[1 mark]
7	£56	[1 mark]
8	7	[1 mark]
9	60 %	[1 mark]
10	$\frac{1}{2}$	[1 mark]
11	$\frac{1}{3}$	[1 mark]
12	x: Like terms with $2x$; $6y$: Not like terms; $2x^2$: Not like terms; 4: Not like terms; $-2x$: Like terms with $2x$; $2x$: Like terms with $2x$ <i>Award 2 marks when every part is correct. Award 1 mark when there is exactly one error.</i>	[2 marks]
13	$\frac{3}{2}$	[1 mark]
14	42 square centimetres	[1 mark]
15	3	[1 mark]
16	2	[1 mark]

17	clock 1 → pentagon; clock 2 → kite; clock 3 → parallelogram	[1 mark]
<i>Award the mark only when every part is correct.</i>		
18	20	[3 marks]
<i>Award 3 marks for the correct answer. Award 2 marks for a complete method with no more than one arithmetic error. Award 1 mark for a correct first step.</i>		
19	8 cm	[2 marks]
<i>Award 2 marks for the correct answer. Award 1 mark for a correct method with no more than one arithmetic error.</i>		
20	£90	[3 marks]
<i>Award 3 marks for the correct answer. Award 2 marks for a complete method with no more than one arithmetic error. Award 1 mark for a correct first step.</i>		
21	£12	[3 marks]
<i>Award 3 marks for the correct answer. Award 2 marks for a complete method with no more than one arithmetic error. Award 1 mark for a correct first step.</i>		
22	From a bag of 5 red and 1 blue	[1 mark]
<i>Award the mark for the correct choice only. Two or more choices marked scores no mark.</i>		
23	78 %	[2 marks]
<i>Award 2 marks for the correct answer. Award 1 mark for a correct method with no more than one arithmetic error.</i>		
24	Co-interior angles add up to 180, so the other is 112 degrees	[1 mark]
<i>Award the mark for the correct choice only. Two or more choices marked scores no mark.</i>		

Total

33 marks