Year 7

Mathematics

Core: Calculator allowed

Time allowed: 45 minutes

First name	
Middle name	
Last name	
Date of birth	Day ___ Month ___ Year ___
Teacher	

This assessment has been designed by White Rose Maths.

For more information, please visit **www.whiterosemaths.com**
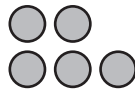
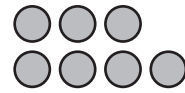**White Rose Maths**

1   Here is a sequence of patterns made with counters.

pattern 1   pattern 2   pattern 3

Draw pattern 4

1 mark

Complete the table to describe the number of counters in each pattern.

Pattern number	1	2	3	4	5
Number of counters	3	5	7		

1 mark

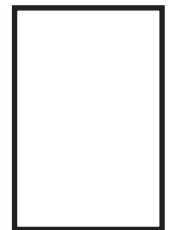**2** Whitney has worked out $\frac{1}{3} + \frac{3}{5}$

Here is her working.

$$\frac{1}{3} + \frac{3}{5} = \frac{1}{15} + \frac{3}{15} = \frac{4}{15}$$

Explain the mistake she has made.

1 mark

Work out $\frac{1}{3} + \frac{3}{5}$

1 mark

3   Write these numbers in order of size.

Start with the smallest number.

$$0.607 \qquad 0.63 \qquad 0.59 \qquad 0.625$$

_____

<div align="right">1 mark</div>

Write these numbers in order of size.

Start with the smallest number.

$$34\% \qquad \frac{6}{11} \qquad 0.41 \qquad \frac{2}{5} \qquad \frac{7}{8}$$

_____

<div align="right">2 marks</div>

4 Here is part of a bank statement.

Date	Description	Credit (£)	Debit (£)	Balance (£)
01/02/2021	Starting balance			39.75
04/02/2021	Phone bill		35.00	
05/02/2021	Salary	1207.65		
09/02/2021	Rent			685.08

Complete the bank statement.

5 A group of 50 people were asked their favourite colour.

Complete the table.

Colour	red	blue	green	yellow	other
Frequency	15	14	8		5

1 mark

Complete the bar chart to show the results.
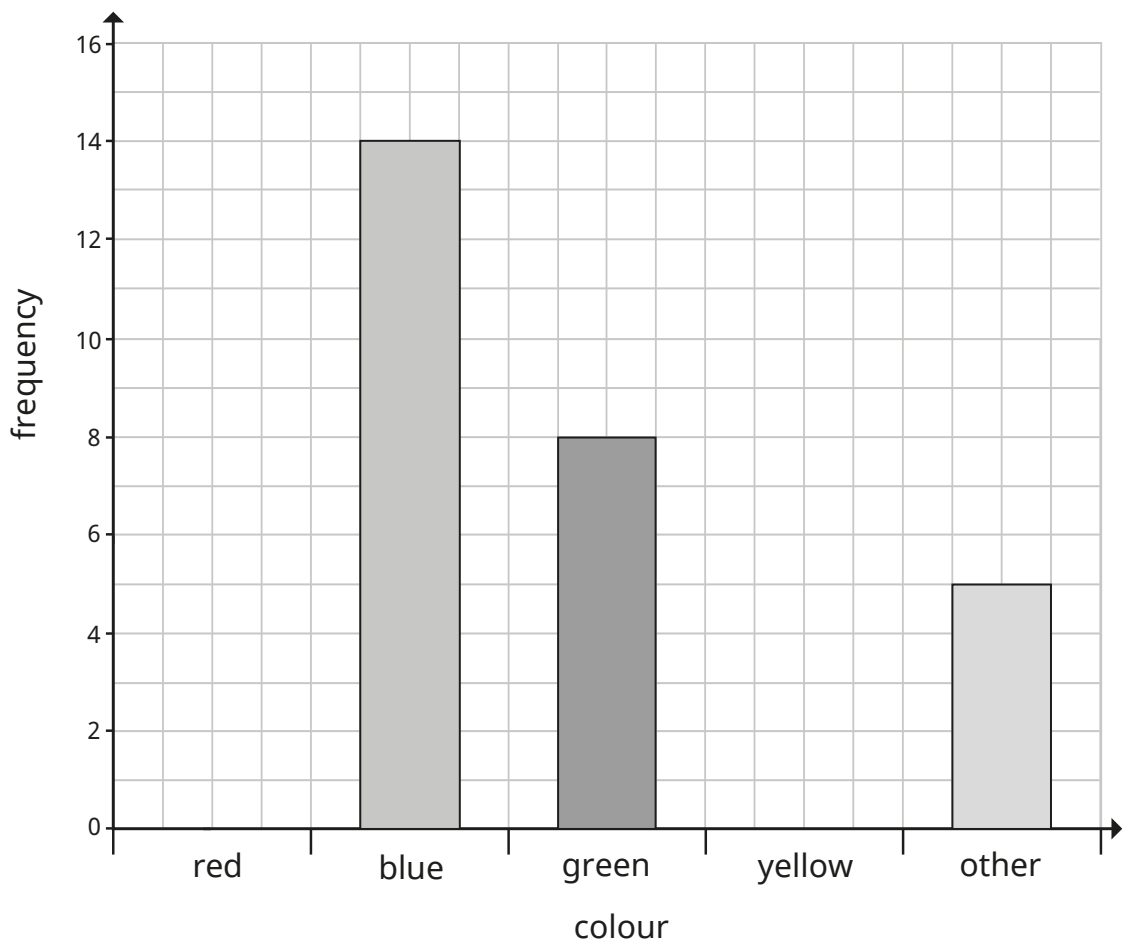
1 mark

6 Here are the times taken, in seconds, for ten people to answer a question.

5.2   6.2   8.5   2.9   4.8   5.6   7.4   9.1   5.0   6.9

Find the median time taken.

seconds

2 marks

Work out the mean time taken.

seconds

2 marks

7

$a = 0.71$

Work out the value of $\frac{(3 + a)^2}{4a}$

Write down all the figures on your calculator display.

_____

2 marks

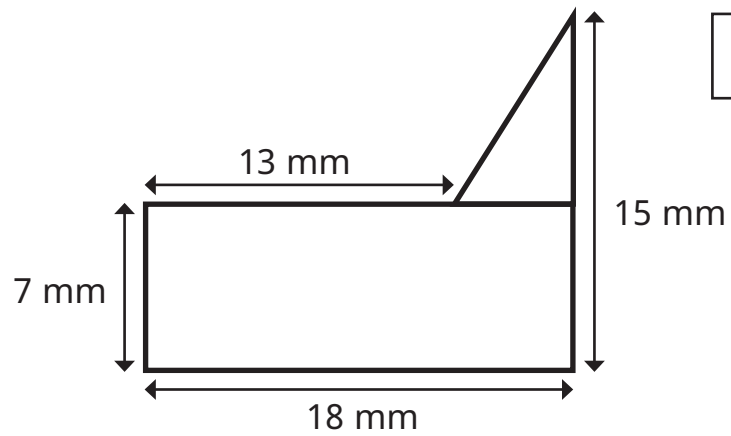Write your answer to 1 significant figure.

1 mark

8

Pasta costs £1.50 per kg.

How much does 600 g of pasta cost?

£

2 marks

9 Here is a shape made from a rectangle and a triangle.

13 mm

7 mm

18 mm

15 mm

diagram not drawn accurately

Work out the total area of the shape.

mm²

3 marks

10 Simplify the expression.

$12.4f + 3.9f - 37f$
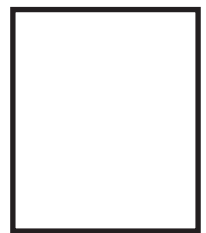
1 mark

Evaluate $17 - 5p$ when $p = -9$

2 marks

11 Work out

$5 \frac{2}{15} + 2 \frac{7}{9}$

Give your answer as a mixed number in its simplest form.

3 marks

12 Work out 36% of £180

£

2 marks

13 The nth term of a sequence is given by $\frac{3n}{15}$

Is the 7th term of the sequence an integer?

Circle your answer.

Yes   **No**

Explain your reasoning.

1 mark

14 Without calculating, explain why

20% of 17.49 = $\frac{1}{5}$ of 17.49

Show that

$\frac{1}{8}$ of 729 = 15% of 607.5

15 Mo, Annie and Ron each have some sweets.

Mo has n sweets.

Annie has three times as many sweets as Mo.

Ron has 5 fewer sweets than Annie.

They have 23 sweets in total.

Show that $7n - 5 = 23$

2 marks

Work out how many sweets Mo has.

2 marks

END OF TEST

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