

Spring Assessment

# Year 8

## Mathematics

**Foundation:** No calculator allowed

Time allowed: 45 minutes

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

These assessments have been designed by White Rose Maths.  
For more information, please visit [www.whiterosemaths.com](http://www.whiterosemaths.com)



1

50% of this diagram is shaded.



0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Shade 20% of this diagram.



0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

1 mark

Izabel has £30

She spends 20% on a pencil case.

How much does the pencil case cost?

£

2 marks

**2**Work out the value of the expression when  $t = 8$ 

$$\frac{t}{2}$$

1 mark

Work out the value of the expression when  $x = 5$ 

$$4x - 12$$

1 mark

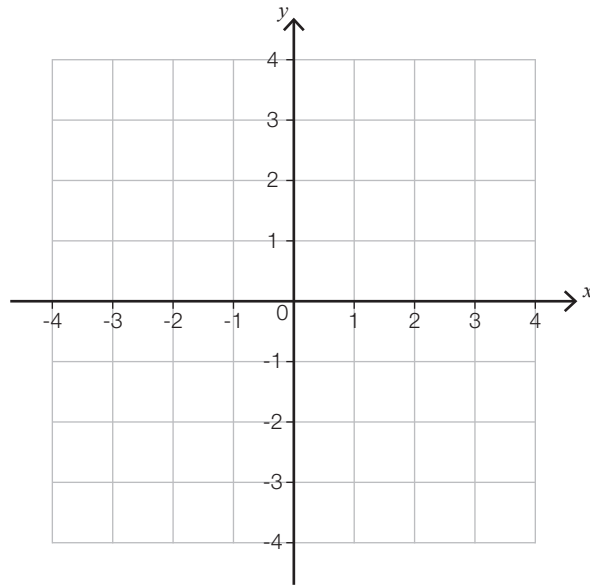
Expand the brackets.

$$5(2x + 1)$$

1 mark

3

Plot the points  $(4, 2)$  and  $(-3, -1)$  on the grid shown.



2 marks

Which of these points lies on the line  $y = x$ ?

Circle your answers.

**$(3, -3)$**

**$(-3, -3)$**




**$(-3, 3)$**

**$(3, 3)$**

1 mark

4

The table shows a number sequence.

Term	Pattern	Number of dots
1 <sup>st</sup> $n = 1$		4
2 <sup>nd</sup> $n = 2$		
3 <sup>rd</sup> $n = 3$		10
4 <sup>th</sup> $n = 4$		13

Complete the table.

2 marks

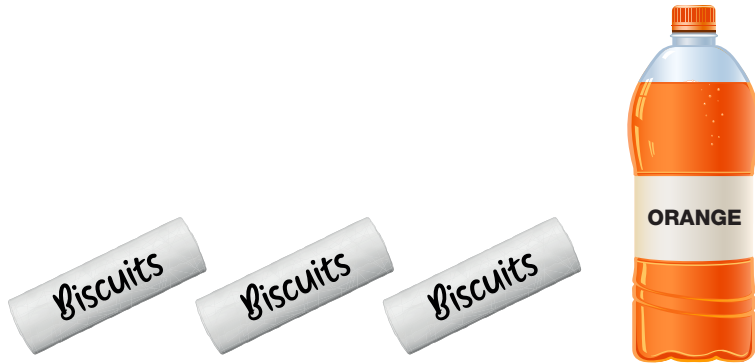
How many dots will there be in the 6<sup>th</sup> pattern?

1 mark

5

A packet of biscuits costs 84p.

A bottle of orange drink costs £1.38



Dora buys 3 packets of biscuits and one bottle of orange drink.

She pays with a £20 note.

How much change should she receive?

3 marks

Amir buys a packet of biscuits for each of his 32 classmates.

Work out an **estimate** for the total amount Amir has to pay.

You must show your working.

2 marks

**6**

Solve the inequalities.

$$y + 7 > 15$$

1 mark

$$\frac{x}{4} < 3$$

1 mark

**7**

Choose the correct expression to make each statement correct.

$$a \times a \times a$$

$$3a - 12$$

$$a + a + a$$

$$8a$$

$$a + 8$$

$$3a - 4$$

$$a^3 =$$

$$3(a - 4) =$$

$$8 + a =$$

3 marks

**8**

Fill in the missing numbers.

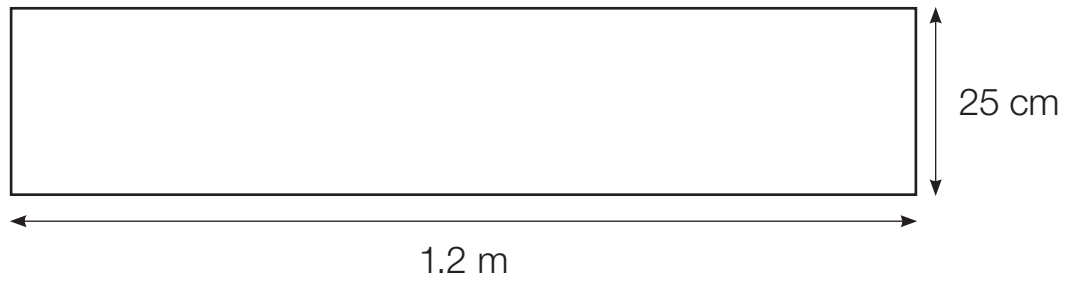
$$\frac{39}{50} = \frac{\boxed{\phantom{000}}}{100} = \boxed{\phantom{000}}\%$$

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2 marks



9



Work out the perimeter of the rectangle.



2 marks

10

Write the ratio in its simplest form.

400 g : 2 kg

2 marks

**11**

Tick (✓) which gives the greatest answer.

Show your working.

£12 increased by  $\frac{1}{3}$        £12 increased by 25%

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2 marks

Decrease 130 kg by 30%

 kg

---

2 marks

Work out

$$\frac{3}{4} \times \frac{5}{7}$$

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1 mark

**12**

A class of 29 students sat a test.

Total Marks	Frequency
$0 < m \leq 10$	3
$10 < m \leq 20$	8
$20 < m \leq 30$	11
$30 < m \leq 40$	5
$40 < m \leq 50$	2

How many students scored more than 20 marks in the test?

2 marks



Faye

“The highest mark scored in the test must have been 50”

Explain why Faye is wrong.

One student is picked at random from the class.

What is the probability this student scored more than 40 marks in the test?

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1 mark

**13**

Write 600 000 in standard form.

1 mark

Write 0.007 in standard form.

1 mark

Put a circle around the largest number in each pair.

Pair A       $7 \times 10^4$                    $6.2 \times 10^5$ Pair B       $8 \times 10^{-2}$                    $8 \times 10^{-3}$ **END OF TEST**

2 marks

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