

Spring Assessment

# Year 8

## Mathematics

**Core:** 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

Round 8.136 to 1 decimal place.

1 mark

Round 15.723 to 2 significant figures.

1 mark

2

Choose the most appropriate unit to measure the height of a building.

Circle your answer.

m

mm

km

1 mark

Choose the most appropriate unit to measure the weight of an apple.

Circle your answer.

g

mg

kg

1 mark

Change 3.5 litres to millilitres.

ml

1 mark

**3**Put  $>$ ,  $<$  or  $=$  in each box to make these statements correct.

$$3(x + 2) \quad \square \quad 3x + 5$$

$$3(x + 2) \quad \square \quad 3(x + 20)$$

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2 marks

4

A bag contains 15 red and 25 green counters.

Write the ratio of red counters to green counters in the bag.

Give your answer in simplest form.

1 mark

One counter is taken at random out of the bag.

What is the probability that the counter is red?

1 mark

What is the probability that the counter is white?

1 mark

**5**Which of these is equal to  $a^6 \times a^3$ ?

Circle your answer.

$a^3$

$a^9$

$a^{18}$

$a^{63}$

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1 markWhich of these is equal to  $b^6 \div b^3$ ?

Circle your answer.

$2$

$b^2$

$b^3$

$b^{-3}$

---

1 mark

**6**

Choose the correct word from the box to complete the sentences.

<b>expression</b>	<b>identity</b>	<b>equation</b>
<b>term</b>	<b>coordinate</b>	

 $10 = 3x - 7$  is an example of an \_\_\_\_\_ $3(x + 2) \equiv 3x + 6$  is an example of an \_\_\_\_\_

2 marks

**7**

Solve the equation.

$$3x = 285$$

1 mark

Solve the inequality.

$$4y + 3 > 15$$

2 marks

8

Work out 23% of £680

2 marks

9

The ratio of boys to girls in a class is 2 : 3

What fraction of the class are girls?

1 mark

What percentage of the class are boys?

1 mark

There are 18 girls in the class.

How many students are there in the class altogether?

2 marks



**10**

Samrah sat two maths tests.

Test 1	Test 2
72%	14 out of 19

In which test did Samrah score the highest percentage?

You must show your working.

Test
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2 marks

**11**

The  $n^{\text{th}}$  term of a sequence is  $2n + 1$

Find the 10<sup>th</sup> term of the sequence.

1 mark

Here is part of the same sequence.

Fill in the boxes with the missing terms.

..., , 39, , ...

1 mark

The  $n^{\text{th}}$  term of another sequence is  $n^2 + 7n$

Find the 10<sup>th</sup> term of the sequence.

1 mark

**12**Write  $1.3 \times 10^3$  as an ordinary number.

1 mark

Write 0.00056 in standard form.

1 mark

**13**

Factorise

$$25 + 10p$$

1 mark

Expand and simplify

$$3(2m + 1) + 5m$$

2 marks

**14**The point (3, 10) lies on the line  $y = 3x + 1$ 

Complete the coordinates for two other points that lie on this line.

(5, )(, 1)

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2 marks

Which of these other lines does the point (3, 10) lie on?

Circle your answers.

$y = 3$

$x = 3$

$y = 10$

$x = 10$

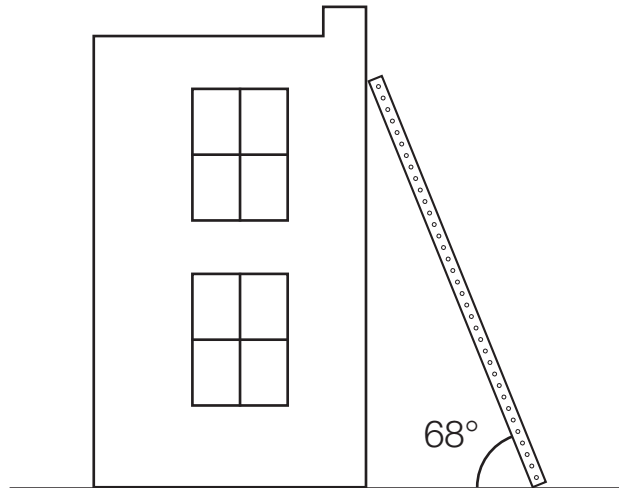
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1 mark

15

A ladder is safe to climb if the angle between the ground and the ladder is between  $70^\circ$  and  $75^\circ$

Tanya's ladder is at an angle of  $68^\circ$



Bobbi says,

**“Increase your angle by 10% and your ladder will be safe to climb.”**

Is Bobbi correct?

Show your reasoning.

2 marks

Here are two cards.

$$4n^2$$

$$(4n)^2$$

Amad says,



**the cards are  
equal when  $n = 3$**



Jenny says,

**the cards are not  
equal when  $n = 3$**

Who is correct?

Show your working.

**END OF TEST**

2 marks

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