

Spring Assessment

Year 8

Mathematics

Higher: No 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



1

Rosie is thinking of a number.

30% of Rosie's number is 21

Work out Rosie's number.

2 marks

2

There are 2000 students at a school.

120 of the students play a musical instrument.

What percentage of students play a musical instrument?

2 marks

3

Circle the equation of the line that has the steepest gradient.

$y = 3x$

$y = 7x$

$y = \frac{1}{3}x$

$y = -2x$

1 mark

Esther says, “ $y = 4x$ and $x = 4y$ will have the same gradient.”

Is Esther correct?

Circle your answer.

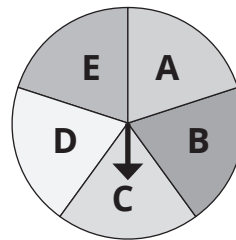
Yes**No**

Explain how you know.

1 mark

4

Brett rolls a six-sided dice and spins a spinner.



One possible outcome is the dice showing 3 and the spinner showing C.

How many possible outcomes are there altogether?

1 mark

5

At the end of a holiday, Amir has 54 000 Icelandic krona to change into British pounds.

The exchange rate is £1 = 180 Icelandic krona.

Work out how many pounds Amir receives.

£

2 marks

6

The first three terms of a linear sequence are 10, 16 and 22

Find a rule for the n th term of the sequence.

2 marks

7

Expand and simplify $(x + 7)(x + 8)$

2 marks

Write $(x^3 + x^3)^3$ as a single simplified term.

2 marks

8

Solve the equation.

$$3(2x + 5) = 4x + 2$$

$x =$

3 marks

9

A bread recipe uses 12 g of yeast for every 0.6 kg of flour.

Write the ratio of yeast to flour in the form $1 : n$.

2 marks

10

The rule for the n th term of a sequence is $3n - 5$

Find the first term in the sequence that is greater than 400

3 marks

11

A rectangle $\frac{1}{8}$ inch wide has area $4\frac{1}{2}$ square inches.

Work out the length of the rectangle.



2 marks

12

Put the numbers in order of size.

Start with the smallest.

2×10^2

2^2

2×10^{-2}

2^{-2}

2 marks

13

A shop has a sale.

Game station

40% off normal price

Y box

$\frac{1}{3}$ off normal price

A game station has a sale price of £180

A Y box has a sale price of £240

Which item has the greater normal price?

Circle your answer.

Game station

Y box

Show working to justify your answer.

3 marks

14

Tommy has a bag containing 12 red and 8 blue counters.
He puts some more blue counters into the bag.
He then picks a counter at random from the bag.
The probability he picks a red counter is $\frac{2}{5}$

How many more blue counters did Tommy put in the bag?

2 marks

15

How many squares of side 10 cm can be cut from a square card of side 2 m?



2 marks

16

The coordinates of point A are $(3, -5)$.

The coordinates of point B are $(-7, -9)$.

Find the coordinates of the midpoint of line segment AB.



2 marks

17

The length, l , of a book is 20 cm correct to the nearest centimetre.

Write down the error interval for l .

2 marks

18

Work out $(4 \times 10^9) \div (8 \times 10^{-3})$

Give your answer in standard form.

2 marks

END OF TEST