Autumn Assessment A

Year 7

Mathematics

Higher: No calculator allowed

Time allowed: 45 minutes

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

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White Rose Maths

1 Put the **same** digit in each box to make the statement correct.

$$10{,}7\ \square\ 4 < 10{,}74\ \square$$

1 mark

2 Solve the equation.

$$400 + 300 + x = 6900$$

$x =$ ____

1 mark

3 Simplify these expressions.

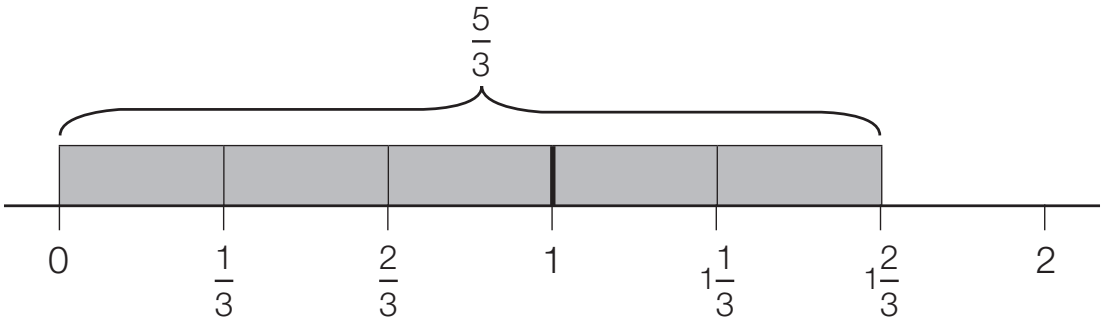
$p^2 + p^2 + p^2$ ____

1 mark

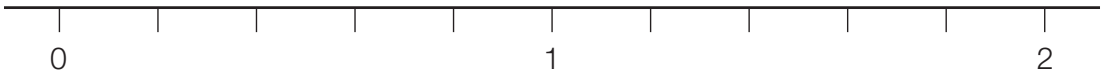
$2ab + 7ab - ab$ ____

1 mark

4 The diagram shows that $\frac{5}{3}$ is equal to $1\frac{2}{3}$



Show $\frac{9}{5}$ on the number line below.



1 mark

Write $\frac{9}{5}$ as a mixed number.

1 mark

5 Write $\frac{1}{8}$ as a decimal.

1 mark

Write $\frac{640}{1000}$ as a percentage.

%

1 mark

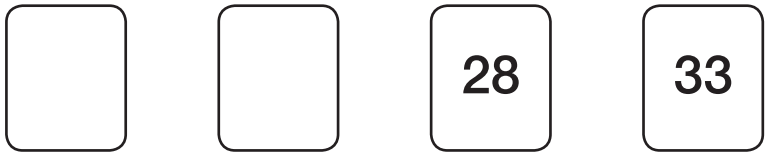
What could the missing number be in this sentence?

is 6000 when rounded to the nearest hundred.

1 mark

6 I count on in equal steps.

My third number is 28 and my fourth number is 33

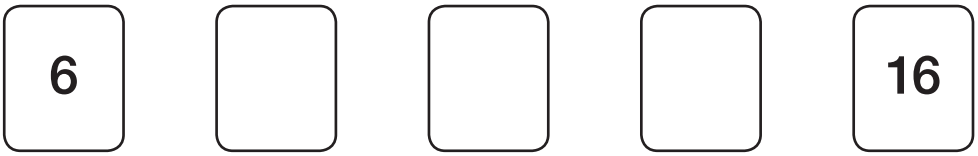


What is my **first** number?

1 mark

I count on in equal steps.

My first number is 6 and my fifth number is 16



What is my **fourth** number?

1 mark

7 When $n = 1$, which expression below has the greatest value?

Circle your answer.

$n + 5$ $\frac{n}{2}$ n^2

$10 - n$ $3n$

1 mark

When $n = 4$, which expression below has the greatest value?

Circle your answer.

$n + 5$ $\frac{n}{2}$ n^2

$10 - n$ $3n$

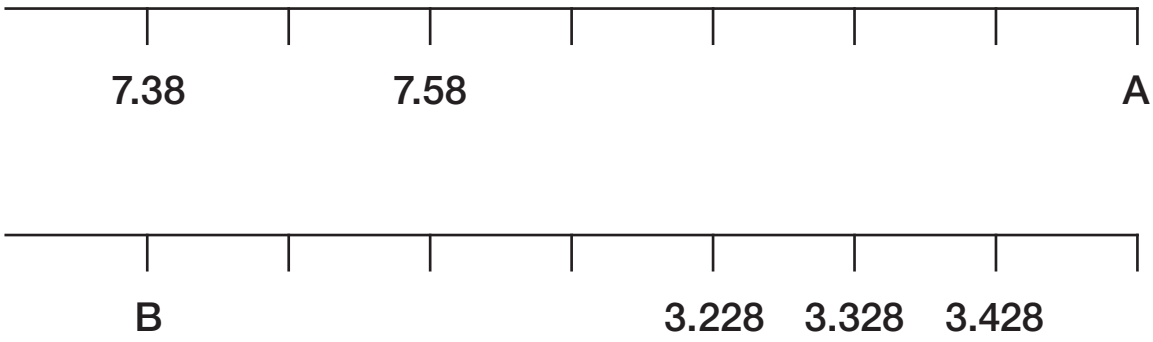
1 mark

Write a number to make the sentence true.

When $n =$ ☐, the expression $4 + n$ has a larger value than the expression $4n$.

1 mark

8 Here are two number lines.



Work out the values of A and B.

A =

1 mark

B =

1 mark

9 Here is a sequence.

$$0.05,\ 10\%,\ \frac{15}{100},\ 0.2,\ 25\%...$$

Write down the next term of the sequence, giving your answer as a fraction.

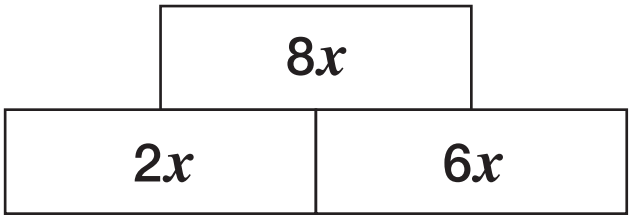
1 mark

The sequence continues.

How many terms in the sequence are less than 1?

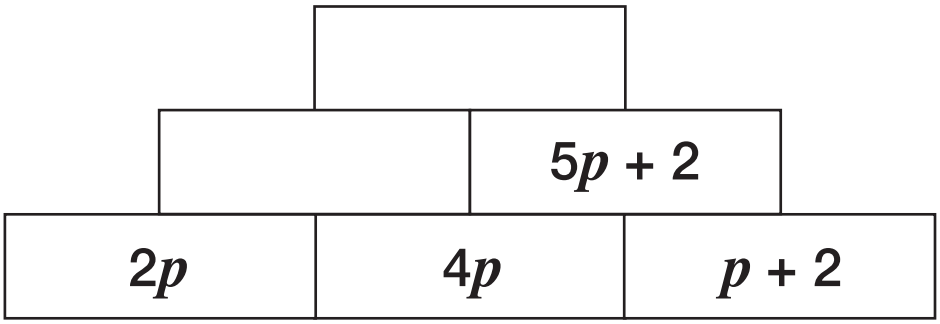
1 mark

10 Here is an addition pyramid.



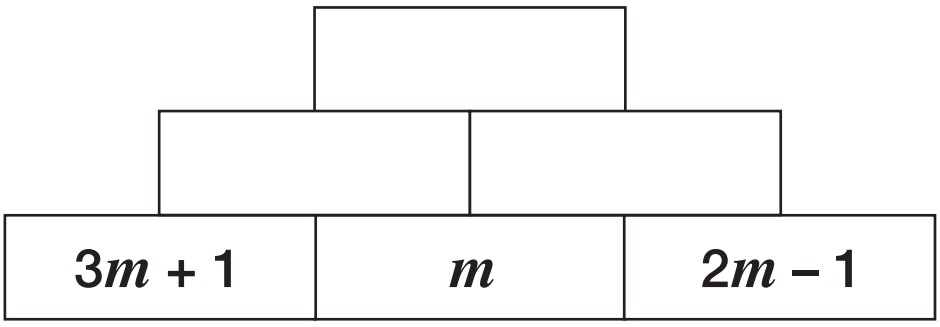
The expression in each block is the sum of the expressions in the two blocks below it.

Complete the addition pyramid.



1 mark

If the value of the top block is 35, work out the value of m.



$m =$

2 marks

11 I think of a number.

I double my number, and then I double it again.

The answer is 828

What was my number?

1 mark

I think of another number.

I subtract my number from $\frac{3}{10}$

The answer is 0.05

What was my number?

1 mark

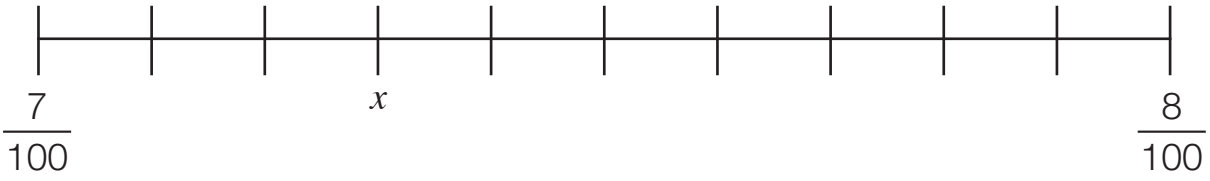
Look at the equation.

$$c + 4 = 103$$

Use the equation to work out the value of $c - 4$

1 mark

12 Here is a number line.



Write down the value of x.

1 mark

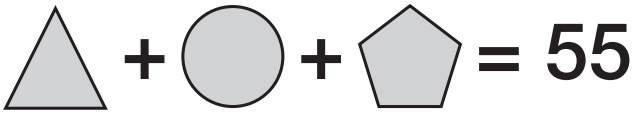
13 Here are four cards.

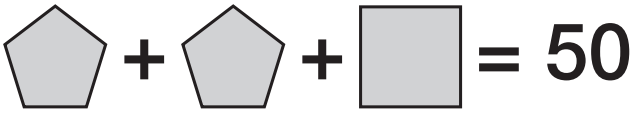
5 tens	1.5	5 tenths	5

Find the range of the cards.

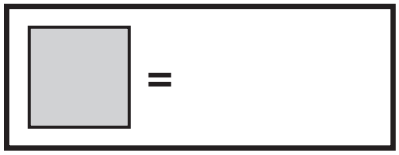
1 mark

14





Work out the value of the square.



3 marks

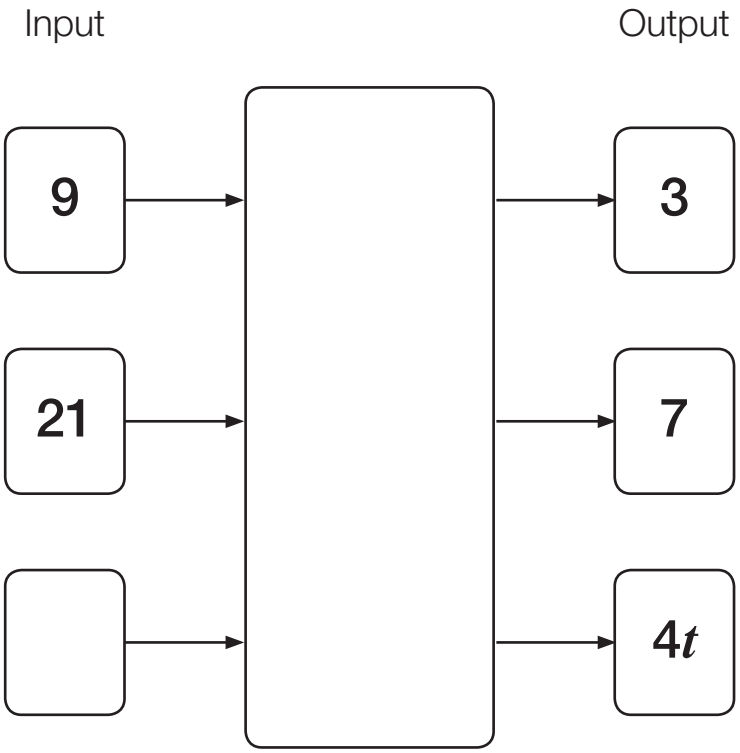
15 Each fraction on the left matches to a simplified fraction on the right.

Match each pair and complete the missing fraction.

$\frac{6}{42}$	$\frac{1}{7}$
$\frac{9}{30}$	$\frac{5}{8}$
$\frac{4}{12}$	$\frac{\quad}{\quad}$
$\frac{15}{24}$	$\frac{1}{3}$

3 marks

16 The function is missing from this machine.



What should the function be?

1 mark

What is the missing input for the function machine?

Give your answer in terms of t.

1 mark

17 These are the approximate populations of six of the biggest cities in the world.

Tokyo **37.5 million**	**Cairo** **20 million**	**Sao Paolo** **21.7 million**
Mumbai **19.8 million**	**Mexico City** **21.6 million**	**Delhi** **28.5 million**

What is the **median** of the populations of these cities?

1 mark

Write the population of Cairo in standard index form.

1 mark

18 Work out the missing numbers.

$$\frac{3}{\square} = \frac{\square}{30}$$

1 mark

$$\frac{100}{\square} = \frac{\square}{100} = 2.5$$

2 marks

19 The wavelength of red light is 7×10^{-7}m.

Which of these is the wavelength of red light written as an ordinary number?

Circle your answer.

0.000 000 07 **0.000 000 7** **7 000 000** **70 000 000**

1 mark

END OF TEST