

NAME	
TEACHER	

Year 9 Mathematics
November Assessment 2024

Paper 1
CALCULATOR

30 minutes
38 marks

Show all your working next to the question

- 1 Match the boxes on the right with the equivalent box on the left.
One of them has been done for you.

Formula		$2x + 1 = 9$
Equation	→	$4x + 2 \equiv 2(2x + 1)$
Expression with 3 terms		$D = ST$
Identity		$x + 5$
		$2x + 5y + 1$

[2 marks]

- 2
(a) Simplify $25 \text{ mm} : 6 \text{ cm}$, giving your answer in its simplest form.

[2 marks]

Answer _____

(b) The ages of Sarah and Ben are in the ratio 6 : 5

Sarah is 78 years old, how old is Ben?

[2 marks]

Answer _____

3 Factorise fully $10x^2 - 5xy$

[2 marks]

Answer _____

4 A gas bill came to £160.23 inclusive of VAT at 5%

What was the cost of the gas before VAT was added?

[3 marks]

Answer £ _____

5

Expand and simplify $(m - 5)^2$

[2 marks]

Answer _____

6 'as a single power of 8' means write as $8^?$ where you have to find ?

(a)

Write $8^{10} \div 8^2$ as a single power of 8

[1 mark]

Answer _____

(b) Write as a single power of 2 $16 \times 2^5 \times 2^3$

[2 marks]

Answer _____

7 'Sofas R Us' increases its prices by 10% and then reduced them by 5%.
'Sofa So Good' reduced its prices by 5% and then increased them by 10%

(a) Which shop increased its prices by the greater percentage?
Circle your answer.

[1 mark]

Sofas R Us Sofa So Good Both the same Cannot tell

(b) Explain your answer to part (a).

[2 marks]

8 Jake, Kim and Lee share some money in the ratio 1 : 3 : 6
Kim gets £9 **more** than Jake.

How much does **Lee** get?

[3 marks]

Answer _____

- 9 John's weight in January 2021 was 80kg.
His weight in January 2022 was 66.4kg.

Find the percentage decrease in John's weight.

[3 marks]

Answer _____ %

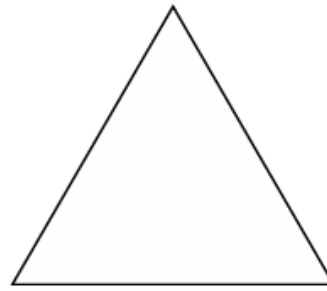
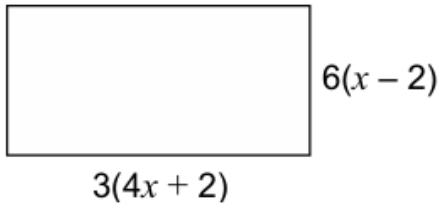
- 10 Write $3(7x - 1) - 6(x + 4) + 2$ in the form $a(bx + c)$
where a , b and c are integers and $a > 1$

[3 marks]

Answer _____

11

The rectangle and the equilateral triangle have equal perimeters.



Not drawn accurately

Work out an expression, in terms of x , for the length of a side of the triangle.

Give your answer in its simplest form.

[4 marks]

Answer _____

- 12 The value of a new motorbike is £12 000
The value of the motorbike decreases by
20% in the first year
8% in each of the next 3 years

Work out the value of the motorbike after 4 years.
Give your answer to the **nearest pound**.

[3 marks]

Answer £ _____

- 13 In total, tourists visiting a country spent $£5.20 \times 10^8$.

On average each tourist spent £645.

How many tourists visited the country?

Give your answer in **standard form** and to **3 significant figures**.

[3 marks]

Answer _____

END OF TEST