Topic Test 1 (20 minutes)
Algebra recap and extension (non-calculator) - Foundation

1   Match the boxes on the right with the equivalent box on the left.

One of them has been done for you.

[3 marks]

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

2   A ruler costs 20p
A pen costs 15p

Write down the total cost of x rulers and y pens.

[1 mark]

Answer _____ p

3 Work out an expression for the nth term of this sequence.

$$2 \qquad 6 \qquad 10 \qquad 14 \qquad \dots$$

[2 marks]

Answer _____

4 Factorise

4 (a) $4x - 6$

[1 mark]

Answer _____

4 (b) $x^2 - 7x + 12$

[2 marks]

Answer _____

5 Simplify fully $5t + 2w + 3t - w$

[2 marks]

Answer _____

6 Expand and simplify $2(3x - 1) - (x - 2)$

[3 marks]

Answer _____

7 Solve the equation $3x + 14 = 2$

[2 marks]

$x =$ _____

8 Solve the equation $5x + 1 = 2(x + 4)$

[3 marks]

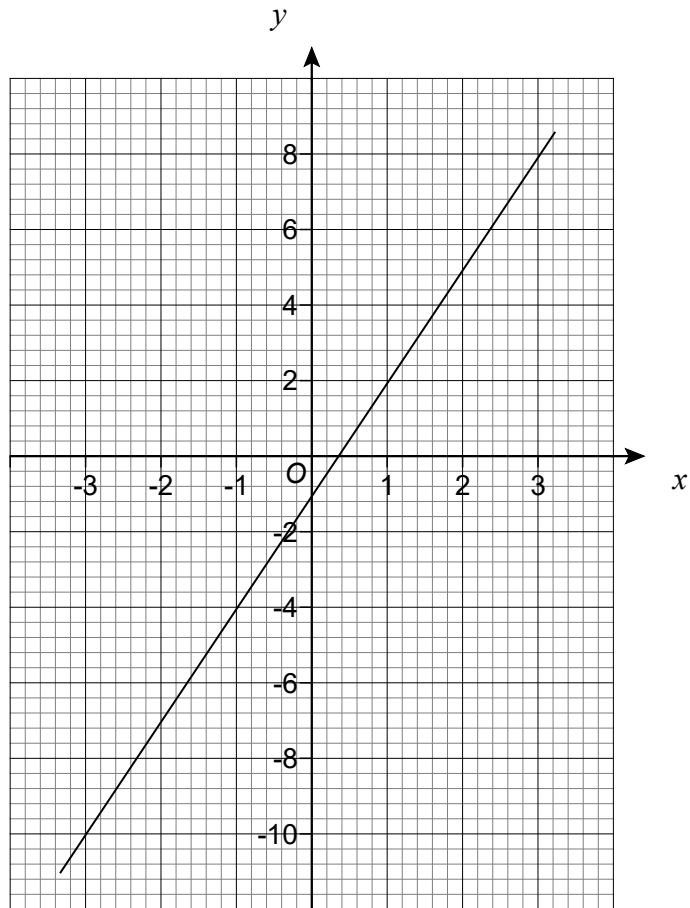Answer _____

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9 Here is the graph of $y = 3x - 1$

Use the graph to find the solution to $3x - 1 = 0$

[1 mark]