NAME

Time:

Calculator Questions

1 Simplify

a $-2x \times 5x$

(1 mark)

b $x + x + 2x$

(1 mark)

c $9t - 3t + 5t$

3 a Mary says $e \times e = 2e$

Is Mary correct? You must explain your answer.

(1 mark)

b Pau says $7 \times 5t = 12t$

Is Pau correct? You must explain your answer.

(1 mark)

5 Naomi says that $(x + 3)^2 = x^2 + 9$

Naomi is incorrect.
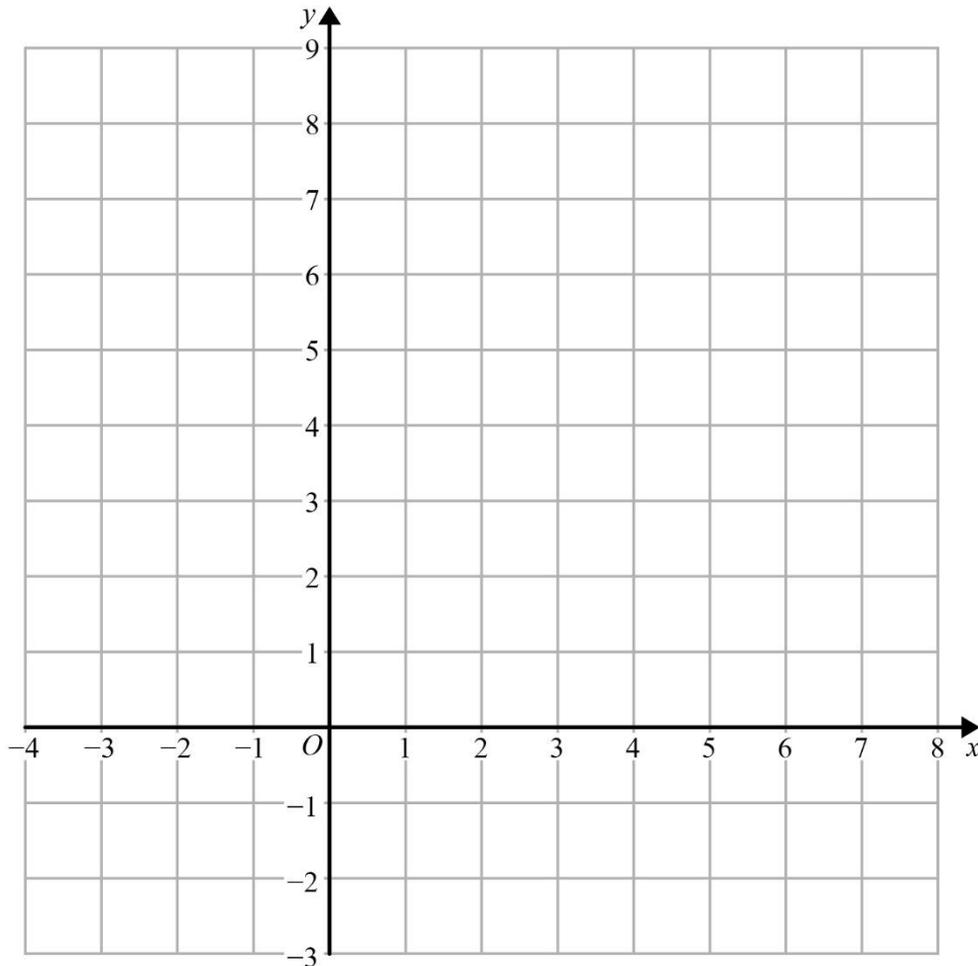
Explain what Naomi has done incorrectly.

(2 marks)

7th

7 **a** Complete the table of values for the equation $y = x^2 - 2x - 1$

x	−2	−1	0	1	2	3	4
y		2		−2			7

(2 marks)

7th

b On the grid, draw the graph with equation $y = x^2 - 2x - 1$
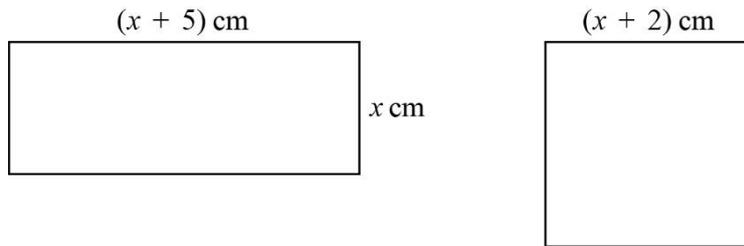

(2 marks)

9th

c Use your graph to estimate solutions to the equation $x^2 - 2x - 1 = 0$

(2 marks)

2

9 The diagram shows a rectangle with length $(x + 5)$ cm and width x cm

and a square of side $(x + 2)$ cm

(x + 5) cm

x cm

(x + 2) cm

The area of the rectangle and the square are equal.

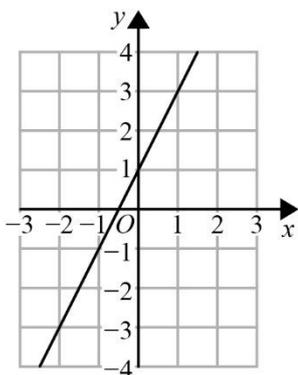**a** Write down and solve an equation to find the value of x.

(3 marks)

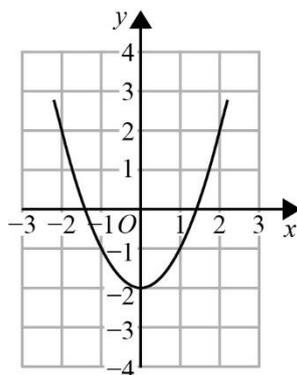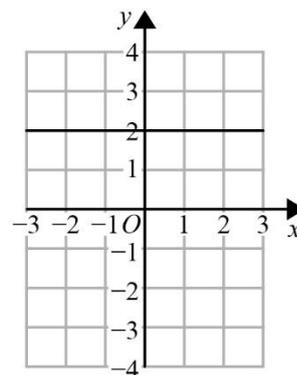**b** Write down the length of the side of the square.

(1 mark)

11 Here are three graphs, **A**, **B** and **C**.

      A   **B**   **C**

Match the correct graph letter to each equation.

$y = 2$

$y = x^2 - 2$

$y = 2x + 1$

(2 marks)

13 Solve by factorising

a $x^2 + 8x + 12 = 0$

(2 marks)

b $x^2 - 25 = 0$

(2 marks)

c $7x^2 + 21x = 0$

(2 marks)

Overall mark	/24