

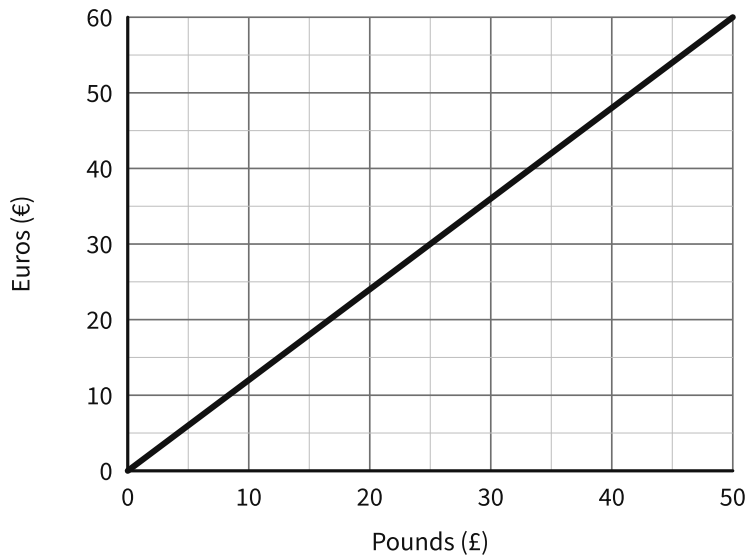
Real Life and Quadratic Graphs

ANSWERS

Ruler | 30 minutes | Total marks: 22

Name Class

- 1 The graph can be used to change between pounds and euros.



- (a) Change £30 into euros.

Answer € 36 (1) [1 mark]

- (b) Change €48 into pounds.

Answer £ 40 (1) [1 mark]

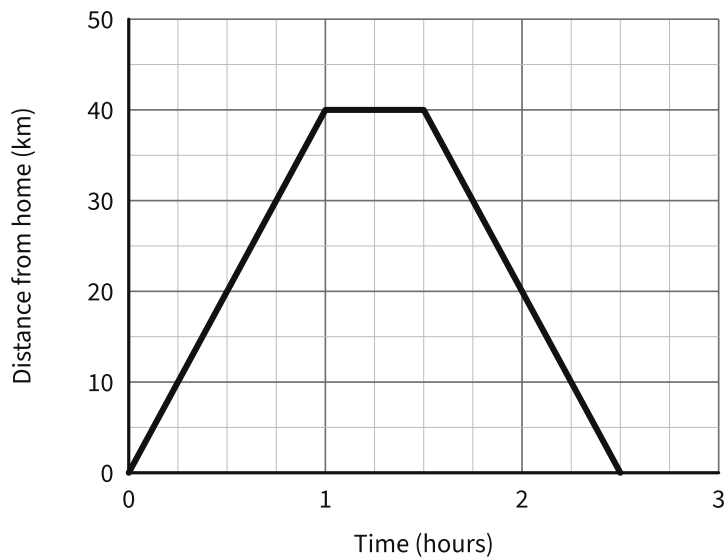
- (c) Change £200 into euros.

$$£50 = €60, \text{ so } 4 \times 60 \text{ (1)}$$

Answer € 240 (1) [2 marks]

2

The graph shows Jo's cycle ride from home and back.



(a) How far from home was Jo after 1 hour?

Answer 40 (1) km [1 mark]

(b) For how many minutes did Jo stop?

Answer 30 (1) minutes [1 mark]

(c) Work out Jo's speed on the journey home.

40 km in 1 hour (1)

Answer 40 (1) km/h [2 marks]

3

A plumber uses this formula to work out the charge, £ C , for a job that takes h hours.

$$C = 30h + 45$$

(a) What does the 30 represent?

The charge for each hour, £30 (1)

[1 mark]

(b) What does the 45 represent?

The fixed charge before any hours, £45 (1)

[1 mark]

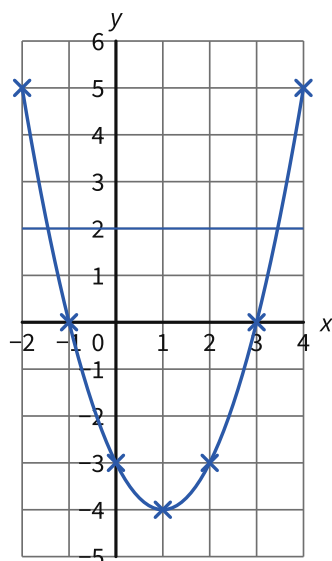
4

(a) Complete the table of values for $y = x^2 - 2x - 3$

x	-2	-1	0	1	2	3	4
y	5	0	-3	-4	-3	0	5 (1)(1)

[2 marks]

(b) Use your table to draw the graph.

On the grid, draw the graph of $y = x^2 - 2x - 3$ for values of x from -2 to 4

Points plotted (1) Smooth curve through them (1)

[2 marks]

(c) Write down the roots of $x^2 - 2x - 3 = 0$ $x = -1 \text{ and } 3$ (1)(1)

[2 marks]

(d) Write down the coordinates of the turning point of the graph.

Answer $(1, -4)$ (1)

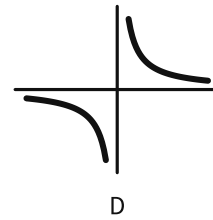
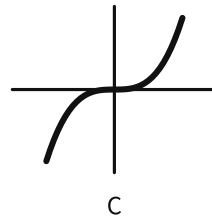
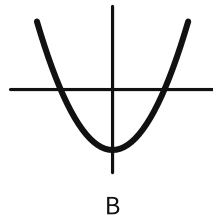
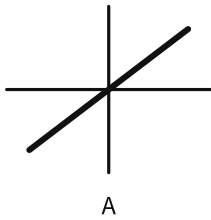
[1 mark]

(e) Use your graph to find approximate solutions of $x^2 - 2x - 3 = 2$ line $y = 2$ drawn (1) $x = -1.4 \text{ and } 3.4$ (1) accept ± 0.2

[2 marks]

5

Here are four sketch graphs.



Write down the letter of the graph that could be

$$y = x^2 - 4$$

B (1) [1 mark]

$$y = x^3$$

C (1) [1 mark]

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

D (1) [1 mark]

Question	Topic	RAG
1	I can use a conversion graph	
2	I can interpret a distance time graph	
3	I can interpret a fixed charge and a rate	
4	I can draw and use a quadratic graph	
5	I can recognise quadratic, cubic and reciprocal graphs	