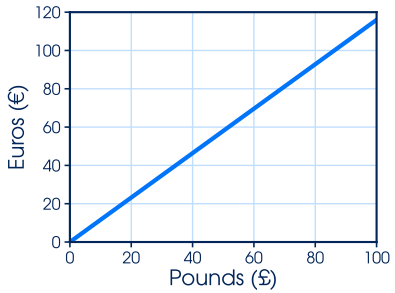
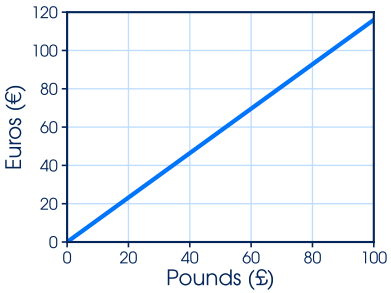
GCSE HIGHER · REVISION MAT 1

Real-life graphs

1 Use the graph to convert £40 to euros.

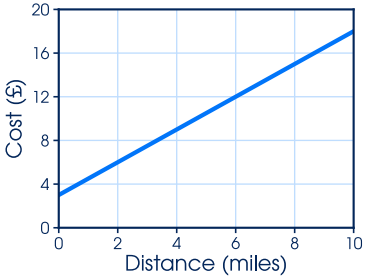


2 Use the graph to convert €116 to pounds.



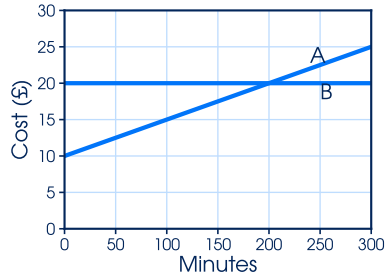
3 The graph shows taxi fares.

Explain why it does not start at (0, 0).



4 Plan A: £10 a month plus 5p per minute.

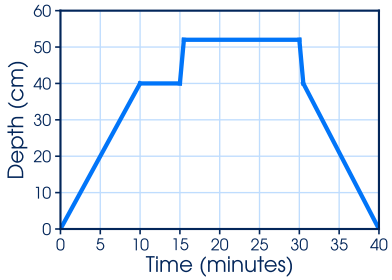
Plan B: £20 a month.



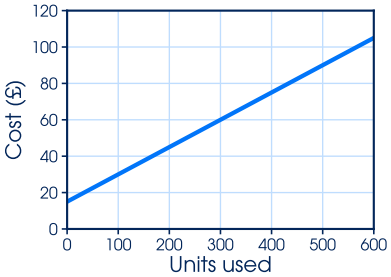
For how many minutes is plan A cheaper?

5 The graph shows the depth of water in a bath.

Describe what happens in each section.

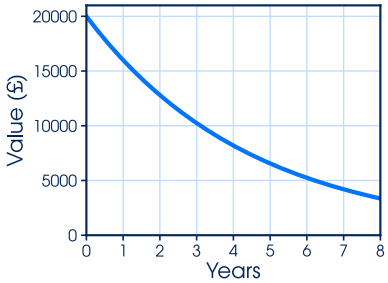


6 The graph shows a gas bill.



Find the cost per unit and the cost of 1000 units.

7 A car's value is $V = 20\,000 \times 0.8^t$.



Show that its value after 2 years is £12 800.

Explain why the graph never reaches 0.

8 A car loses 20% of its value each year.

It cost £20 000 new.

After how many whole years is it first worth less than £5000?

ANSWERS · REVISION MAT 1

Real-life graphs

1 **About €46**

2 **£100**

3 **There is a fixed charge of £3 before any distance is travelled.**

4 $10 + 0.05m < 20$

Fewer than 200 minutes

5 Fills for 10 min, then stays level.

Someone gets in (depth jumps), then gets out.

The bath then empties.

6 Standing charge £15

Gradient $\frac{90}{600} = 0.15$

15p per unit; £165

7 $20\,000 \times 0.64 = 12\,800$

Multiplying by 0.8 never gives 0.

8 $20\,000 \times 0.8^n < 5000 \Rightarrow 0.8^n < 0.25$

$0.8^6 = 0.262$, $0.8^7 = 0.210$

7 years

Mr&Mrs MATHS