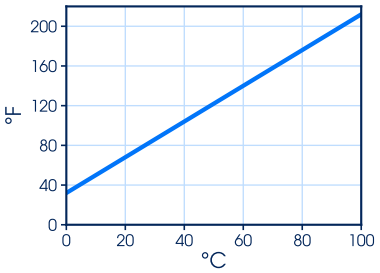
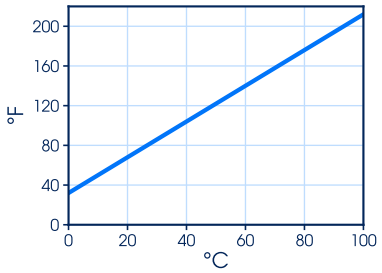
GCSE HIGHER · REVISION MAT 5

Real-life graphs

1 Use the graph to convert 20 °C to °F.

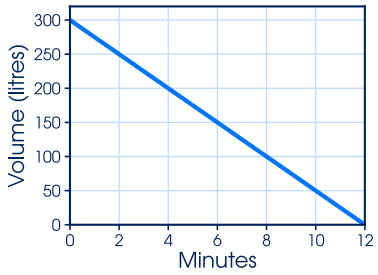


2 Use the graph to convert 86 °F to °C.



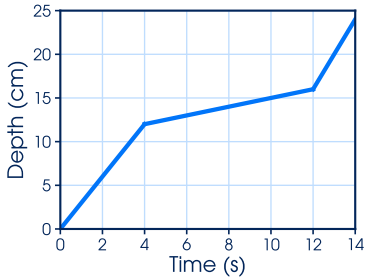
3 Explain why °F is not directly proportional to °C.

4 The graph shows a tank emptying.



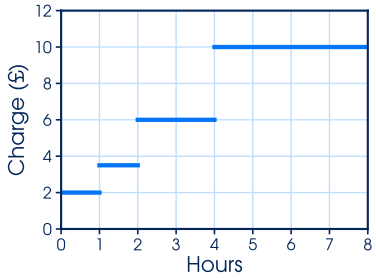
How long would a 450-litre tank take to empty at the same rate?

5 Water is poured into a vase at a constant rate.



Which section shows the widest part of the vase? Explain.

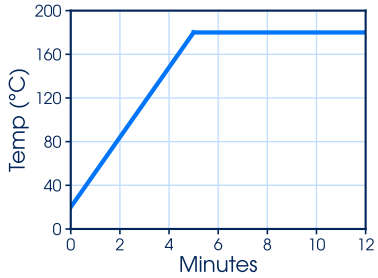
6 The graph shows car park charges.



Amir parks from 9:40 am to 12:10 pm.

How much does he pay?

7 The graph shows an oven heating up.



Find the rate of heating at first.

What does the flat section show?

8 Tariff A: £15 a month, including 300 minutes, then 10p per minute.

Tariff B: £8 a month plus 4p per minute.

For how many minutes is A cheaper?

Mr&Mrs MATHS

ANSWERS · REVISION MAT 5

Real-life graphs

1 **68 °F**

2 **30 °C**

3 **The graph does not pass through (0, 0): 0 °C is 32 °F.**

4 Rate $\frac{300}{12} = 25$ L/min

$\frac{450}{25}$ = 18 minutes

5 **The middle section: the depth rises most slowly there.**

6 2 hours 30 minutes

£6

7 $\frac{160}{5} = 32$

32 °C per minute; the oven stays at 180 °C.

8 Up to 300:

$15 < 8 + 0.04m \Rightarrow m > 175$

Over 300:

$15 + 0.1(m - 300) < 8 + 0.04m$

$\Rightarrow m < 383$

From 176 to 383 minutes

Mr&Mrs MATHS