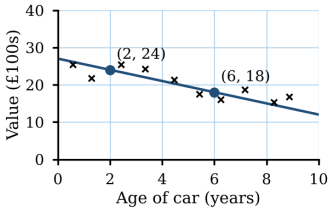
Day 288 **S Tier 10-a-day**

1 The scatter graph shows age of car (x) and value (y).
The line of best fit passes through (2, 24) and (6, 18).
(a) Find its equation in the form y = mx + c.
(b) Explain what its gradient tells you.



2 The sum of the interior angles of a polygon is 3240°.
Work out the number of sides of the polygon.

3 The point P(12, −2) lies on the graph of y = f(x).
Write down the coordinates of the image of P on the graph of
(a) y = f(x + 2) (b) y = f(x) + 2

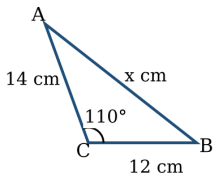
4 A red light flashes every 4 minutes.
A blue light flashes every 6 minutes.
A green light flashes every 14 minutes.
They all flash together at 7:00 am.
How many times do they all flash together between 7:00 am and 3:00 pm, including both 7:00 am and 3:00 pm if they do?

5 Simplify fully $\frac{3x^{\frac{1}{3}} \times 6x^{\frac{5}{2}}}{2x^{-\frac{1}{2}}}$

Day 288	S Tier 10-a-day

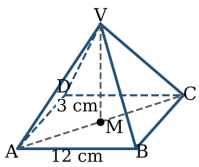
6 Convert the recurring decimal $0.\dot{7}$ to a fraction.
Give your fraction in its simplest form.

7 The diagram shows triangle ABC. (Calculator)
(a) Work out the length of AB, marked x, to 1 decimal place.
(b) Work out the area of triangle ABC to 3 significant figures.
The diagram is not drawn accurately.



8 A and B are two events.
P(A) = 0.4, P(B) = 0.3 and P(A or B) = 0.58
(a) Work out P(A and B).
(b) Are A and B independent? You must show your working.

9 VABCD is a pyramid on a square base. V is directly above the centre M. (Calculator)
(a) Work out AC as a simplified surd.
(b) Work out the angle between VA and the base, to 1 d.p.
The diagram is not drawn accurately.



10 The HCF of two numbers is 2 and their LCM is 20.
The smaller number is 4.
Work out the larger number.