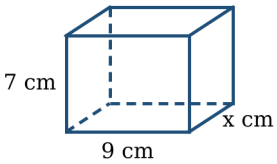
Day 58	A Tier 10-a-day

1 The diagram shows a prism with a rectangle as its cross-section.
The volume of the prism is 378 cm^3.
Work out the value of x.
The diagram is not drawn accurately.



2 Work out $4\frac{1}{3} + 4\frac{1}{2}$
Give your answer as a mixed number in its simplest form.

3 A house is worth £400000. (Calculator)
Its value increases by 20% each year.
Work out its value after 2 years., to the nearest pound.

4 (a) Simplify $\sqrt{175}$
(b) Simplify $\sqrt{6} \times \sqrt{24}$

5 C is the point $(-4, -4)$ and D is the point $(-1, -8)$.
(a) Find the midpoint of CD.
(b) Work out the length of CD. Give your answer as a whole number.

Day 58	A Tier 10-a-day
6 Prove that the sum of two consecutive multiples of 9 is always an odd multiple of 9.	
7 The mean age of 9 students is 59 years. One of them, aged 63, leaves. Work out the mean age of the remaining students.	
8 Two similar statues have heights 8 cm and 12 cm. The surface area of the smaller one is 32 cm^2. Work out the surface area of the larger one.	
9 Work out the value of $3x^2 - 7x + 1$ when $x = -2$	
10 Tom invests £1,000 in a savings account. (Calculator) Compound interest is paid at a fixed rate each year. After 2 years the investment is worth £1,081.60. Work out the annual rate of interest.	