Day 306	A Tier 10-a-day
1 Work out $(4.5 \times 10^{-4}) \div (3 \times 10^{3})$ Give your answer in standard form.	
2 Expand and simplify $(2x + 2)^2$	
3 (a) Work out 0.7×0.08 (b) Work out $0.18 \div 0.03$	
4 A tank is in the shape of a cuboid measuring 60 cm by 50 cm by 40 cm. It already contains 20 litres of water. Water flows in at 20 litres per minute until the tank is full. Work out how long this takes. Give your answer in minutes.	
5 A tin of soup is a cylinder with radius 2 cm and height 5 cm. Work out the volume. Give your answer in terms of π.	

Day 306	A Tier 10-a-day
6 y is inversely proportional to x. When x = 20, y = 10. (a) Find a formula for y in terms of x. (b) Work out the value of y when x = 2.	
7 (a) Show that the equation $x^3 + 3x - 7 = 0$ can be rearranged to give $x = \sqrt[3]{7 - 3x}$ (b) Show that the equation has a solution between x = 1 and x = 2	
8 The size of each angle of a quadrilateral is shown as an expression: $(3x - 25)°$, $(x + 20)°$, $(x + 55)°$, $(x + 64)°$ Work out the value of x.	
9 The value of a house increases by 5% each year. (Calculator) After 2 years it is worth £2,205. Work out its value at the start.	
10 Zac invests £1000 in a savings account. (Calculator) The account pays compound interest at a fixed rate each year. After 2 years there is £1040.40 in the account. Work out the annual rate of interest.	