Day 45	A Tier 10-a-day
1 Convert 0.25 m^3 into cm^3.	
2 $f(x) = 3x - 6$ $g(x) = x^2 - 3$ (a) Find $f(-2)$ (b) Find $fg(x)$. Give your answer in its simplest form.	
3 $A = 2^2 \times 5^3 \times 7^2$ $B = 2^4 \times 5^4 \times 7^3$ Find the highest common factor (HCF) and the lowest common multiple (LCM) of A and B. Give your answers as products of prime factors.	
4 The price of a season ticket increases by 12%. The new price is £89.60. Work out the price before the increase.	
5 Solve $3x^2 + 4x - 4 = 0$	

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6 m = 8,400 is rounded to the nearest 100. Write down the error interval for m.	
7 A is the point $(-4, -2)$ and B is the point (2, 0). Find the equation of the perpendicular bisector of AB.	
8 Two similar shapes have areas 18 cm^2 and 162 cm^2. The length of one side of the smaller shape is 2 cm. Work out the length of the matching side on the larger shape.	
9 Jug A contains 12 litres of a mixture of concentrate and water in the ratio 3 : 1. Jug B contains 18 litres of a mixture of concentrate and water in the ratio 1 : 2. The contents of both jugs are mixed together. Work out the ratio of concentrate to water in the mixture. Give your answer in its simplest form.	
10 (a) Change 4,800 cm^3 to litres. (b) Change 1,250 mm^2 to cm^2.	