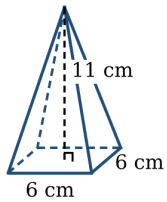
Day 254	A Tier 10-a-day
1 A straight line passes through the points (−4, 6) and (−3, 3). Find the equation of the line.	
2 A lorry travels at 144 km/h. Work out this speed in metres per minute.	
3 Solve the simultaneous equations $-3x + 3y = 3$ $-4x - 2y = 22$	
4 The diagram shows a pyramid with a square base of side 6 cm. The perpendicular height of the pyramid is 11 cm. Work out the volume of the pyramid. The diagram is not drawn accurately. 	
5 One grain of sand has a mass of 1.2×10^{-6} kg. A sample contains 3×10^{5} grains of sand. Work out the total mass of the sample. Give your answer in standard form.	

Day 254	A Tier 10-a-day
6 In a sale, all prices are reduced by 40%. A jacket costs £72 in the sale. Work out the original price of the jacket.	
7 $f(x) = \frac{x - 6}{5}$ (a) Find $f^{-1}(x)$ (b) Work out $f^{-1}(-3)$	
8 Jug A contains 15 litres of a mixture of orange juice and lemonade in the ratio 3 : 2. Jug B contains 36 litres of a mixture of orange juice and lemonade in the ratio 5 : 7. The contents of both jugs are mixed together. Work out the ratio of orange juice to lemonade in the mixture. Give your answer in its simplest form.	
9 Triangle LMN has vertices L(2, 4), M(2, 6), N(−4, −2). The triangle is enlarged with scale factor $\frac{3}{2}$ and centre (0, 2). Write down the coordinates of the vertices of the image.	
10 The population of a village was 220 and is now 88. Work out the percentage decrease.	