Day 22	A Tier 10-a-day
1 Write $10^8 \times 10^2 \div 10^2$ as a single power of 10.	
2 The scale of a map is 1 : 200000. A road is 3 km long. Work out the length of the road on the map, in centimetres.	
3 Convert 250 mm^2 into cm^2.	
4 Solve the simultaneous equations $6x - 4y = -10$ $4x - 2y = -4$	
5 M is the midpoint of AB. A is the point (1, −4) and M is the point (2, 3). Work out the coordinates of B.	

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6 m = 0.2 is rounded to 1 significant figure. Write down the error interval for m.	
7 Here are the first five terms of a quadratic sequence. 6, 20, 42, 72, 110 (a) Find an expression for the nth term. (b) Work out the 10th term.	
8 Show that $\frac{\sqrt{63}-\sqrt{28}}{\sqrt{7}}$ is an integer, and find its value.	
9 A shop sells cereal in 2 different sizes. Small bag: 250 g for £2.20 Large bag: 400 g for £3.10 Which bag is the best value for money? You must show your working.	
10 Solve the simultaneous equations $y = x^2 + 6x + 19$ $y = -x + 7$	