Day 50	B Tier 10-a-day
1 Here is a number machine. Input → × 3 → + 9 → Output (a) The input is 3. Work out the output. (b) The output is 30. Work out the input.	
2 7 cakes cost £5.60. Work out the cost of 5 cakes.	
3 WXYZ is a rhombus. Angle ZWX = 84°. (a) Write down the size of angle XYZ. (b) Work out the size of angle WXY.	
4 Expand and simplify $3(x + 5) + 4(x + 3)$	
5 Write these numbers in order of size. Start with the smallest. 6.3×10^{3}, 5.9×10^{-5}, 2.9×10^{1}, 820,000	

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6 A is the point (0, −3) and B is the point (−1, −11). (Calculator) (a) Work out the coordinates of the midpoint of AB. (b) Work out the length of AB. Give your answer correct to 1 decimal place.	
7 The price of a laptop is £80. The price is first increased by 20%, then the new price is reduced by 25%. (a) Work out the final price. (b) Work out the overall percentage decrease in the price.	
8 Expand and simplify $(x - 4)(x + 8)$	
9 A water tank is $\frac{3}{8}$ full. 72 litres of water are added. The water tank is now $\frac{3}{5}$ full. Work out the capacity of the water tank.	
10 50 fish in a lake are caught, tagged and returned to the lake. Later, a sample of 40 fish is caught and 2 of them are tagged. Estimate the total number of fish in the lake.	