Day 152 **B Tier 10-a-day**

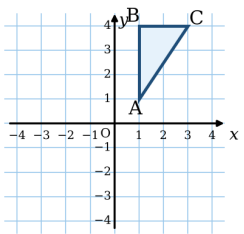
1 Here is a number machine.
Input → + 10 → − 8 → Output
(a) The input is 12. Work out the output.
(b) The output is 12. Work out the input.

2 (a) Convert 3500 ml to litres.
(b) Convert 2.5 m^3 to cm^3.

3 Here are the temperatures at noon in a town.
31, 25, 27, 21, 9, 16, 11, 14
(a) Find the median.
(b) Work out the range.

4 A jug holds 1.75 litres of juice.
Each glass holds 250 ml.
How many glasses can be filled from the jug?

5 The diagram shows triangle ABC on a grid.
(a) Write down the coordinates of the image of B after a reflection in the line y = 1.
(b) Write down the coordinates of the image of C after a reflection in the y-axis.



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6 A lorry travels at 60 km/h for 1.5 hours and then at 48 km/h for 1.5 hours. Work out its average speed for the whole journey.	
7 Solve $4x - 5 = 12$ Give your answer as a fraction in its simplest form.	
8 25 students were asked. 12 of them play football and 11 of them play tennis. 8 of them did both. (a) How many did neither? (b) One is chosen at random. Find the probability that they play football but do not play tennis.	
9 In a sale, the price of a sofa is reduced by 10%. (Calculator) Two weeks later it is reduced by a further 20% of the new price. The final price is £36. Work out the original price of the sofa.	
10 A paddling pool is $\frac{2}{5}$ full. 21 litres of water are added. The paddling pool is now $\frac{1}{2}$ full. Work out the capacity of the paddling pool.	