Day 102 **B Tier 10-a-day**

1 Simplify $5m + 6n - 6m - 5n$

2 Pasta is sold in two sizes.
Small: 300 g for £1.02
Large: 600 g for £2.40
Which size is better value for money?
You must show your working.

3 PQRS is an isosceles trapezium with PQ parallel to SR.
Angle SPQ = 75°.
(a) Write down the size of angle PQR.
(b) Work out the size of angle PSR.

4 A cyclist travels at a constant speed of 18 km/h for 10 minutes.
How far does it travel?

5 Complete the table of values for $y = x^2 + x - 1$

x	−2	−1	0	1	2	3
y					5	11

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6 Two lights flash at 08:30. One light flashes every 9 minutes. The other light flashes every 12 minutes. At what time do both lights next flash together?	
7 Triangle ABC is isosceles with AB = AC = 13 m. The base BC = 10 m. (a) Work out the perpendicular height of the triangle. (b) Work out the area of the triangle.	
8 There are 300 bus passengers. $\frac{3}{5}$ of them are adults and the rest are children. $\frac{1}{5}$ of the adults and $\frac{2}{5}$ of the children have a pass. One person is chosen at random. Work out the probability that they have a pass.	
9 A square-based pyramid has base side 8 m and vertical height 3 m. Volume of a pyramid = $\frac{1}{3}$ × base area × height Work out the volume of the pyramid.	
10 In a sale, all prices are reduced by 8%. (Calculator) A bike costs £110.40 in the sale. Work out the original price of the bike.	