Day 118	B Tier 10-a-day
1 Here is a formula. T = 5n + 20 Work out the value of T when n = 2	
2 Write down the number of edges and vertices of a hexagonal-based pyramid.	
3 Jo has x stickers. Ben has 6 more stickers than Jo. Cara has 4 times as many stickers as Jo. (a) Write an expression, in terms of x, for the number of stickers Ben has. (b) Write an expression, in terms of x, for the total number of stickers the three of them have. Give your answer in its simplest form.	
4 Electricity costs 15p per unit. There is also a standing charge of £8. Work out the total bill for 420 units.	
5 Write each number as an ordinary number. (a) 8.9×10^{6} (b) 5×10^{-3}	

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6 Two fair dice, numbered 1 to 5 and 1 to 6, are rolled. Work out the probability that the total score is 8.	
7 Mohammed invests £1200 in a savings account. (Calculator) The account pays 6% compound interest per year. Work out the amount in the account after 3 years. Give your answer to the nearest penny.	
8 A 4-digit code is made using only the digits 1, 3, 5, 7, 9. A digit can be used more than once. How many different codes are possible?	
9 A rectangle has length $(x + 5)$ cm and width $(x - 6)$ cm. The area of the rectangle is 42 cm^2. (a) Show that $x^2 - x - 72 = 0$ (b) Hence work out the length of the rectangle.	
10 $\mathbf{a} = \begin{pmatrix} 5 \\ 7 \end{pmatrix}$ $\mathbf{b} = \begin{pmatrix} 2 \\ -1 \end{pmatrix}$ Work out (a) $2\mathbf{a} + \mathbf{b}$ (b) $3\mathbf{a} + 2\mathbf{b}$	