Day 162	A Level Maths: C Tier 10-a-day
1 (a) Convert $\frac{4\pi}{3}$ radians to degrees. (b) Convert 150° to radians, giving your answer in terms of π.	
2 Show, by a counter-example, that the statement "If n^2 is a multiple of 9 then n is a multiple of 9" is false, where n is a positive integer.	
3 Here are 15 values: 37, 27, 68, 31, 16, 14, 47, 58, 71, 19, 70, 33, 6, 54, 69 Find the median and the interquartile range.	
4 Simplify $\sqrt{25x^4} \times 5x^{-1}$.	
5 X ~ B(n, p) has mean 2.4 and variance 1.92. Find n and p.	

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6 Express $\frac{3x + 3}{(x + 2)(x + 5)}$ in the form $\frac{A}{x + 2} + \frac{B}{x + 5}$. Find the values of A and B.	
7 The equation $x^2 + 4x + c = 0$ has equal roots. Find the value of c.	
8 A train starts from rest and moves in a straight line with constant acceleration 4 m s^{-2}. It travels 162 m. Find the time taken.	
9 A sector has radius 10 cm and area 80.0 cm^2. Find the angle of the sector in radians and the arc length.	
10 A particle moves in a straight line with velocity v = $(3t^2 + 6t + 7)$ m s^{-1} at time t seconds. Find the distance travelled between t = 1 and t = 4 (the particle does not turn round).	