Day 11	S Tier 10-a-day
1 A sector of a circle has angle 120° and area 12π cm^2. (a) Work out the radius of the circle. (b) Work out the length of the arc of the sector. Give your answer to (b) in terms of π.	
2 Factorise $6x^2 - 11x - 10$	
3 Here are five numbers: $x - 2$, $3x + 3$, $x - 3$, $3x + 4$, $2x - 2$. The mean of the five numbers is 6. (a) Work out the value of x. (b) Work out the range of the five numbers.	
4 The number of visitors is decreased by 50%. By what percentage must the new value be increased to get back to the original value?	
5 The line L has equation $15x - 8y = 120$. L crosses the x-axis at the point A and the y-axis at the point B. (a) Find the coordinates of A and B. (b) Work out the area of triangle OAB, where O is the origin.	

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6 Given that $\frac{16^5 \times 32^4}{4^2} = 2^n$, find the value of n.	
7 Solve tan x = 1 for $0° \leq x \leq 360°$. Do not use a calculator.	
8 Solve $4x^2 + x - 2 = 0$ Give your answers in surd form.	
9 Find the smallest positive integer k such that 560 ÷ k is a square number.	
10 A bag contains some counters. 5 of them are green and the rest are white. Two counters are taken at random without replacement. The probability that both are green is $\frac{2}{11}$. Work out how many counters are white.	