Day 52	S Tier 10-a-day
1 Sparkle Cleaners has a call-out fee of £4.50 plus £2.50 per hour. Fresh Start has a call-out fee of £24 plus £1 per hour. (a) Work out the number of hours for which the two costs are the same. (b) Which is cheaper for 20 hours, and by how much?	
2 The mean of 11 numbers is 40. One number is removed and the mean of the remaining 10 numbers is 39.2. Work out the number that was removed.	
3 Solve $3 \tan x + 4 = 0$ for $0° \leq x \leq 360°$. (Calculator) Give your answers correct to 1 decimal place.	
4 Rationalise the denominator of $\frac{25}{2\sqrt{2}}$ Give your answer in its simplest form.	
5 Make u the subject of $v = 3\sqrt{u - 5} + 2$	

Day 52	S Tier 10-a-day
6 Pipe A can fill an empty pool in 12 minutes. Pipe B can fill an empty pool in 60 minutes. Both are turned on at the same time. How long do they take to fill an empty pool?	
7 A circle has equation $x^2 + y^2 = 25$. The point P(−3, 4) lies on the circle. Find an equation of the tangent to the circle at P. Give your answer in the form ax + by = c, where a, b and c are integers.	
8 Work out $(\frac{64}{27})^{-\frac{1}{3}}$	
9 A sector of a circle has angle 90° and area 9π 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.	
10 Sofia, Tariq and Hassan share some stickers. Sofia : Tariq = 2 : 9 Tariq : Hassan = 7 : 4 (a) Work out the ratio Sofia : Tariq : Hassan. (b) They share 226 stickers altogether. How many stickers does Tariq get?	