Day 323	A Tier 10-a-day
1 (a) Solve $-11 < 3x - 5 \leq -2$ (b) Write down all the integer values of x that satisfy this inequality.	
2 Here are four fractions: $\frac{2}{6}$ $\frac{13}{40}$ $\frac{2}{4}$ $\frac{3}{4}$ Which one of these fractions is equal to a recurring decimal?	
3 Expand and simplify $(3x - 3)(3x + 4)$	
4 Change 37500 cm^3 to litres.	
5 In a sale, all prices are reduced by 6%. (Calculator) A watch costs £61.10 in the sale. Work out the original price of the watch.	

Day 323	A Tier 10-a-day
6 Triangle STU: angle T = 35°, angle U = 60°, TU = 7 cm. Triangle DEF: angle E = 60°, angle F = 35°, EF = 7 cm. Are the two triangles congruent? Give a reason for your answer.	
7 A is the point (3, −5) and B is the point (5, −1). Find the equation of the perpendicular bisector of AB.	
8 A tank is in the shape of a cuboid measuring 100 cm by 40 cm by 150 cm. It already contains 50 litres of water. Water flows in at 20 litres per minute until the tank is full. Work out how long this takes. Give your answer in minutes.	
9 A cyclist travels 720 metres in 6.4 seconds. The distance is correct to the nearest 10 metres and the time to the nearest 0.1 second. (a) Work out the upper bound and the lower bound of the speed in m/s. (b) Write the speed to a suitable degree of accuracy. Give a reason for your answer.	
10 A sphere has radius 5 cm. Work out the volume of the sphere. Give your answer in terms of π.	