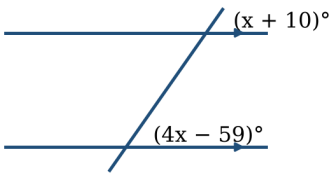
Day 227	A Tier 10-a-day
1 Oscar spends $\frac{2}{5}$ of the money on a book and $\frac{1}{3}$ of the money that is left on a game. What fraction of the money does Oscar have left? Give your answer in its simplest form.	
2 Solve $6(x - 3) = 2(x - 8) + 10$	
3 11 pumps take 12 hours to empty a pond. All the pumps work at the same rate. How many pumps are needed to empty a pond in 22 hours?	
4 The diagram shows two parallel lines crossed by a straight line. (a) Work out the value of x. (b) Work out the size of the angle marked (x + 10)°. The diagram is not drawn accurately. 	
5 (a) Write 0.02631 correct to 3 significant figures. (b) Write 5.4362 correct to 2 decimal places.	

Day 227	A Tier 10-a-day
6 Shape A has an area of 6 cm^2. Shape A is enlarged by scale factor $\frac{1}{2}$ to give shape B. Work out the area of shape B.	
7 Tom cycles 210 km at 70 km/h and then a further 210 km at 105 km/h. Work out the average speed for the whole journey.	
8 (a) Show that the equation $x^3 + x - 23 = 0$ can be rearranged to give $x = \sqrt[3]{23 - x}$ (b) Show that the equation has a solution between x = 2 and x = 3	
9 A cyclist travels 560 metres in 18.1 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, B, C and D are points on a circle. AC and BD meet at E. Angle BAC = 61° and angle ACD = 51°. Work out the size of angle x (angle AEB). Give reasons for your working. 