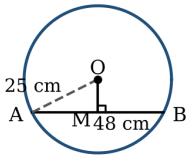
Day 318	S Tier 10-a-day
1 AB is a chord of a circle, centre O. M is the midpoint of AB. (Calculator) (a) Work out the length OM. (b) Work out angle AOB, to 1 decimal place. The diagram is not drawn accurately.  	
2 The 4-digit number 696k is a multiple of 4. k is a single digit. Find all the possible values of k.	
3 A wooden block in the shape of a cuboid weighs 960 N. Its smallest face has area 500 cm^2. Its largest face has area 800 cm^2. Pressure = force ÷ area Work out (a) the greatest pressure and (b) the least pressure the wooden block can exert on the ground, in N/m^2.	
4 A is the point (5, 0) and B is the point (13, 4). Find an equation of the perpendicular bisector of AB. Give your answer in the form ax + by = c, where a, b and c are integers.	
5 $f(x) = 5x + 5$ and $g(x) = x^2 - 4$ (a) Find gf(x). Give your answer in the form $ax^2 + bx + c$. (b) Solve gf(x) = 96	

Day 318	S Tier 10-a-day
6 The ratio of boys to girls in a school is 4 : 1. 85% of the boys and 20% of the girls walk to school. What percentage of all of these students walk to school?	
7 Write $0.93\dot{8}$ as a fraction in its simplest form.	
8 Solve $\frac{3}{x-2} - \frac{5}{x+2} = 2$	
9 The price of a share is increased by x%. The new price is then decreased by x%. The final price is 4% less than the original price. Work out the value of x.	
10 The mean of 10 numbers is 144. A new number is added and the mean of all 11 numbers is 133. Work out the new number.	