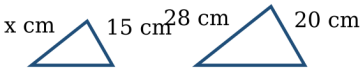
Day 10	A Tier 10-a-day
1 $f(x) = 4x - 4$ $g(x) = x^2 + 4$ Solve $gf(x) = 53$	
2 A shop sells flour in 2 different sizes. Small bag: 400 g for £3.35 Large bag: 1000 g for £9.20 Which bag is the best value for money? You must show your working.	
3 Write these numbers in order of size, starting with the smallest. $0.58 \quad \frac{8}{10} \quad 28\% \quad \frac{9}{10}$	
4 A straight line has equation $3x - 3y = 9$ (a) Find the gradient of the line. (b) Find the coordinates of the point where the line crosses the x-axis.	
5 The two triangles are similar. Work out the value of x. The diagrams are not drawn accurately. 	

Day 10	A Tier 10-a-day
6 Write the recurring decimal $0.\dot{1}\dot{9}$ as a fraction in its simplest form.	
7 (a) Show that the equation $x^3 + 3x - 18 = 0$ can be rearranged to give $x = \frac{18 - x^3}{3}$ (b) Show that the equation has a solution between $x = 2$ and $x = 3$	
8 The area of a circle is 100π cm^2. (a) Work out the radius of the circle. (b) Work out the circumference. Give your answer in terms of π.	
9 The mean of 6 numbers is 70. Another number is added. The mean of the 7 numbers is now 66. Work out the number that was added.	
10 One bacterium has a mass of 4×10^{-3} g. A sample contains 3×10^8 bacteria. Work out the total mass of the sample. Give your answer in standard form.	