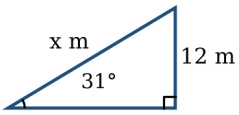
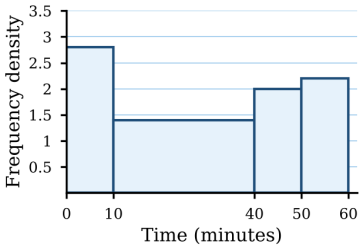
Day 351	A Tier 10-a-day
1 $f(x) = 2x + 6$ $g(x) = x^2 + 1$ Find $fg(-6)$	
2 (a) Write down all the prime numbers between 90 and 108. (b) Write 209 as the product of two prime numbers.	
3 Make m the subject of $n = 2(m + 3)$	
4 Work out the value of x. (Calculator) Give your answer to 3 significant figures. The diagram is not drawn accurately. 	
5 $A = 2^4 \times 3^3 \times 5$ $B = 2^4 \times 3^3$ Find the highest common factor (HCF) and the lowest common multiple (LCM) of A and B. Give your answers as products of prime factors.	

Day 351	A Tier 10-a-day
6 A regular pentagon and an equilateral triangle share the side PQ and are on opposite sides of it. The two shapes meet at the point P. Work out the size of the angle at P that is not inside either shape.	
7 Show that $\frac{\sqrt{125}-\sqrt{80}}{\sqrt{5}}$ is an integer, and find its value.	
8 The histogram shows information about the time of some items. (a) Work out the number of items with a time in the class 50 to 60 minutes. (b) Work out an estimate for the number with a time greater than 25 minutes. 	
9 Solve the simultaneous equations $y = x^2 + 2x + 10$ $y = -2x + 7$	
10 A bag contains 4 black pens and 3 blue pens. Three pens are taken at random without replacement. Work out the probability that at least one of the three pens is blue.	