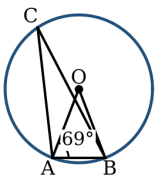
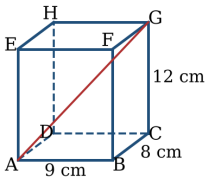
Day 231	S Tier 10-a-day
1 The distance to a village is 3030 km, correct to 3 significant figures. Write down the error interval for the distance to a village, using d.	
2 Factorise $6x^2 - 25x + 25$	
3 A, B and C are points on a circle, centre O. Angle OAB = 69°. (a) Work out the size of angle AOB. (b) Work out the size of angle ACB. The diagram is not drawn accurately. 	
4 The ratio of juniors to seniors in a school is 1 : 4. 85% of the juniors and 80% of the seniors play a sport. What percentage of all of these students play a sport?	
5 The diagram shows a cuboid ABCDEFGH. (Calculator) (a) Work out the length of the diagonal AG. (b) Work out the angle between AG and the base ABCD, to 1 decimal place. The diagram is not drawn accurately. 	

Day 231	S Tier 10-a-day
6 $f(x) = 3x + 6$ and $g(x) = x^2 + 8$ (a) Find $gf(x)$. Give your answer in the form $ax^2 + bx + c$. (b) Solve $gf(x) = 17$	
7 A bag contains some counters. 4 of them are green and the rest are white. Two counters are taken at random without replacement. The probability that both are green is $\frac{6}{55}$. Work out how many counters are white.	
8 The graph of $y = f(x)$ has a minimum point at $(-4, 2)$. Write down the coordinates of the turning point of the graph of (a) $y = f(x) - 1$ (b) $y = f(x + 1) - 5$	
9 $a = 2.35$ and $b = 0.89$, both correct to 3 significant figures. Work out $a \times b$. Write down your answer to a suitable degree of accuracy. You must show your working and give a reason for your answer. (Calculator)	
10 The line $y = 4x + k$ is a tangent to the curve $y = 3x^2 - x + 1$. Find the value of k.	