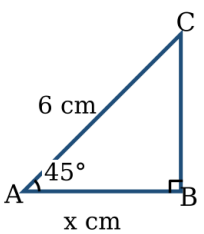
Day 188	S Tier 10-a-day
1 (a) Solve $-3 - 6x \leq -3$ (b) n is an integer. Write down all the values of n that satisfy $7 \leq 3n + 4 < 25$	
2 Find the smallest positive integer k such that $4500 \times k$ is a cube number.	
3 Callum changes £1200 into dollars at £1 = $1.2. Callum spends $1240 and then changes the rest back into pounds at £1 = $1.25. How many pounds does Callum get back?	
4 D is 12% more than P. P is 40% less than B. Work out D as a percentage of B.	
5 ABC is a right-angled triangle. Work out the exact value of x. Give your answer in its simplest form. The diagram is not drawn accurately. 	

Day 188	S Tier 10-a-day
6 A circle has equation $(x + 3)^2 + (y - 3)^2 = 130$. The point P(8, 6) lies on the circle. Find an equation of the tangent to the circle at P. Give your answer in the form $ax + by = c$, where a, b and c are integers.	
7 The graph of $y = f(x)$ has a minimum point at $(-2, 2)$. Write down the coordinates of the turning point of the graph of (a) $y = f(x + 4)$ (b) $y = 3f(x - 4)$	
8 Solve $\frac{1}{x-2} - \frac{6}{x+2} = \frac{2}{3}$	
9 The mean of the marks in a test for the Year 10 students is 42. The mean of the marks in a test for the Year 11 students is 63. The mean for all of the Year 10 students and Year 11 students together is 54.25. Work out the ratio of the number of Year 10 students to the number of Year 11 students.	
10 Simplify $\frac{2}{2+\sqrt{2}} + \frac{1}{2-\sqrt{2}}$ Give your answer with a rational denominator.	