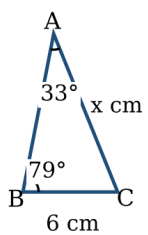
Day 310	IGCSE 10-a-day
1 f(x) = −4x + 4. (a) Find $f^{-1}(-8)$. (b) Express ff(x) in the form px + q.	
2 A curve has equation $y = 2x^3 + 9x^2 + 12x - 6$. The point A (−3, k) lies on the curve. Work out the value of k and the gradient of the curve at A.	
3 The point P(10, 2) lies on the graph of y = f(x). Write down the coordinates of the image of P on the graph of (a) $y = \frac{1}{2}f(x)$ (b) y = f(−x)	
4 12 painters can paint a hall in 30 days. After 3 days, 3 of the painters leave. The rest carry on working at the same rate. How many more days does it take to finish?	
5 The diagram shows triangle ABC. (Calculator) Work out the length of AC. Give your answer correct to 1 decimal place. The diagram is not drawn accurately. 	

Day 310	IGCSE 10-a-day
6 $y = \sqrt{x}(x - 4)$ Find $\frac{dy}{dx}$. Give each term of your answer in the form ax^n.	
7 Solve $\cos 2x = -0.5$ for $0 \leq x \leq 180$. Give your answers correct to 1 decimal place where necessary. (Calculator)	
8 A train travels a distance of 560 km, correct to the nearest 10. The journey takes 70 hours, correct to the nearest whole number. Work out the lower bound of the speed. Give your answer correct to 3 significant figures. (Calculator)	
9 The curve C has equation $y = x^2 - 4x + 6$. The points A and B on C have x coordinates -2 and 0. The tangents to C at A and at B meet at the point T. Find the coordinates of T.	
10 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. 