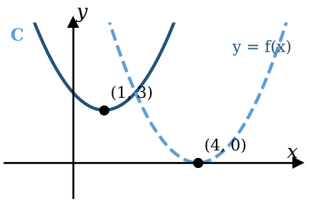
Day 30	IGCSE 10-a-day
1 Solve $2 \sin x + 1 = 0$ for $0° \leq x \leq 360°$. (Calculator) Give your answers correct to 1 decimal place.	
2 $y = -3x^4 + \frac{2}{x^3}$ Find $\frac{dy}{dx}$.	
3 $f(x) = ax + b$, where a and b are constants. $f(4) = 9$ and $f^{-1}(7) = 3$. Find the value of a and the value of b.	
4 Jamal, Kira and Beth share some stickers. Jamal : Kira = 8 : 7 Kira : Beth = 8 : 4 (a) Work out the ratio Jamal : Kira : Beth. (b) They share 444 stickers altogether. How many stickers does Beth get?	
5 Simplify fully $\frac{3x^2 - 75}{x^2 - 6x + 5}$	

Day 30	IGCSE 10-a-day
6 A curve has equation $y = x^3 - 3x^2 + 5x - 4$. Find the minimum value of the gradient of the curve, and the value of x at which it occurs.	
7 The diagram shows the graph of y = f(x) with a minimum point at (1, 3). The dashed curve C is the image of y = f(x) after a translation. The minimum point of C is (4, 0). Write down the equation of C in terms of f. 	
8 The HCF of two numbers is 10 and their LCM is 240. The smaller number is 30. Work out the larger number.	
9 The curves $y = 2x^2 - 2x + 1$ and $y = 3x^2 - 8x + 10$ touch at one point. Find the coordinates of this point and the equation of the common tangent.	
10 The volume of a cube is 538 cm^3, correct to the nearest cm^3. Work out the upper bound of the edge length of the cube. Give your answer correct to 3 significant figures. (Calculator)	