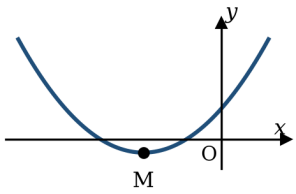
Day 230	IGCSE 10-a-day
1 The diagram shows a sketch of the curve $y = ax^2 + bx + 19$. The curve has a turning point at M(−3, −8). Find the values of a and b. 	
2 Work out $(4.7 \times 10^1) \times (7.9 \times 10^8)$. Give your answer in standard form.	
3 $y = x(x - 4)(2x - 2)$ Work out the gradient of the curve at the point where x = 1.	
4 Solve $\sin x = -\frac{1}{2}$ for $0° \leq x \leq 360°$. Do not use a calculator.	
5 $f(x) = -4x^{3/2} + 3x - 6x^{1/2}$ Find $f'(x)$ and work out the value of $f'(4)$.	

Day 230	IGCSE 10-a-day
6 A and B are two events. P(A) = 0.5, P(B) = 0.8 and P(A or B) = 0.9 (a) Work out P(A and B). (b) Are A and B independent? You must show your working.	
7 A atom has a diameter of 5×10^{-8} metres. Atoms are placed in a straight line, touching, to make a length of 2.45×10^{-5} metres. How many atoms are in the line? Give your answer in standard form.	
8 $g(x) = x^2 + 2x + 3$ for $x \geq -1$. (a) Find the range of g. (b) Find $g^{-1}(x)$.	
9 Solve the simultaneous equations $x^2 + y^2 = 50$ $y = 2x - 5$	
10 Leila and Uma play a match. The first to win 2 tennis sets wins the match. The probability that Leila wins any one of the tennis sets is $\frac{3}{4}$. Work out the probability that Leila wins the match.	