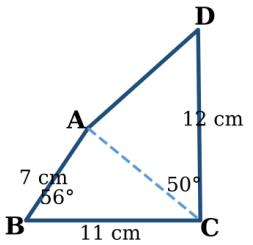
Day 99	IGCSE 10-a-day
1 $f(x) = x^3 - 12x$ Find the y coordinate of the local maximum point and the y coordinate of the local minimum point.	
2 A is the point (0, 1) and B is the point $(-1, -4)$. (a) Write down the vector $\mathbf{AB}$. (b) Find $\lvert\mathbf{AB}\rvert$, giving the answer as a surd in simplest form if it is not exact.	
3 The equation of a curve is $y = -x^2 - \frac{12}{x}$. Work out the gradient of the curve at the point where $x = 1$.	
4 Triangle P has vertices A(0, 4), B(−2, 6) and C(2, 1). Triangle Q has vertices A'(8, 4), B'(14, −2) and C'(2, 13). Q is an enlargement of P. Describe fully the single transformation that maps P onto Q.	
5 A fair 4-sided dice and a fair 6-sided dice are each thrown once. The first score and the second score are recorded. (a) Work out the probability that the sum is greater than 5. (b) Given that the first number is even, work out the probability that the sum is greater than 5.	

Day 99	IGCSE 10-a-day

6 In quadrilateral ABCD, AB = 7 cm, BC = 11 cm, CD = 12 cm,
angle ABC = 56° and angle ACD = 50°.
Work out the area of ABCD. Give your answer correct to 3 significant figures. (Calculator)



7 A curve has equation $y = x + \frac{16}{\sqrt{x}}$ for $x > 0$.

Find the coordinates of the stationary point and determine its nature.

8 A trader buys a watch and adds a 25% mark-up to get the selling price.
In a sale the selling price is reduced by 15% to £297.50.
Work out how much the shop paid for a watch.

9 $4x = 3y$
Work out the ratio $(3x + 1y) : (5y - 4x)$
Give your answer in its simplest form.

10 Solve $5^{x+1} = 25^{x+1}$