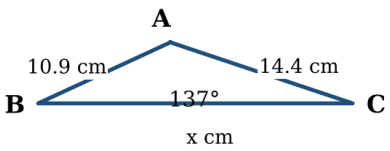
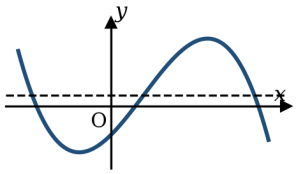
Day 220	IGCSE 10-a-day
1 y is inversely proportional to the square root of x. When x = 36, y = 3. Find the positive value of x when y = 18.	
2 Work out the length of BC. Give your answer correct to 3 significant figures. (Calculator)  	
3 A curve has equation $y = -2x^2 + 6x - 9$. The gradient at the point P on the curve is -10. Find the coordinates of P.	
4 Simplify fully $\frac{9x^4y \times 7x^3y^5}{3xy^4}$ Give your answer in the form kx^ay^b	
5 A particle moves in a straight line. After t seconds its displacement from O is s metres, where $s = 16t^{\frac{3}{2}} - 2t^2$ $(t \geq 0)$ Find the velocity and the acceleration of the particle when t = 9.	

Day 220	IGCSE 10-a-day
6 $f(x) = 4x - 4$ and $g(x) = 3x^2 - 2x - 4$. (a) Find $f^{-1}g(x)$. (b) Work out $f^{-1}g(-2)$.	
7 Simplify $\frac{1}{7+\sqrt{7}} + \frac{1}{7-\sqrt{7}}$ Give your answer with a rational denominator.	
8 The diagram shows a sketch of the curve $y = -x^3 + 3x^2 + 9x - 8$ and the line $y = k$. The line meets the curve at three different points. Find the range of possible values of k. 	
9 The radius of a circle is 14 cm, correct to the nearest centimetre. Work out the upper bound of the area of the circle. Give your answer in terms of π.	
10 Mo invests £2,500. The account pays compound interest of 6% a year for the first 2 years, then 3.5% a year for the next 2 years. Work out the total amount after 4 years, to the nearest penny. (Calculator)	