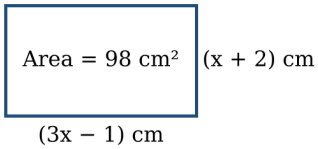
Day 28	IGCSE 10-a-day
1 A curve has equation $y = 2x^3 - 9x^2 - 24x + 5$. Find the coordinates of the stationary points of the curve.	
2 $f(x) = \frac{x + 3}{x + 5}$ (a) Find $f^{-1}(x)$. (b) Find the value of $f^{-1}(3)$.	
3 $y = \frac{-7x^5 + 6x^3 + 5x^2}{x^2}$ Find $\frac{dy}{dx}$.	
4 A = (−3, 2), B = (2, −3), C = (1, −2) and D = (k, −12). **AB** is parallel to **CD**. Find the value of k.	
5 $y = -x^3 + 12x - 8$ At the point where x = 1, is the curve increasing or decreasing? You must show your working.	

Day 28	IGCSE 10-a-day
6 The mean mark of 14 students in Group X is 57. The mean mark of 11 students in Group Y is 65. Work out the mean mark of all 25 students.	
7 Write $\frac{18}{2+\sqrt{7}}$ in the form $p + q\sqrt{7}$ where p and q are integers.	
8 The diagram shows a rectangle of length $(3x - 1)$ cm, width $(x + 2)$ cm and area 98 cm^2. (a) Show that $3x^2 + 5x - 100 = 0$. (b) Work out the perimeter of the rectangle. 	
9 Uma and Maya share some money in the ratio 7 : 5. Uma gives Maya £95. The ratio of their money is now 1 : 5. How much money do they have altogether?	
10 The price of a ticket is decreased by x%. The new price is then increased by x%. The final price is 36% less than the original price. Work out the value of x.	