Day 158	IGCSE 10-a-day
1 The equation of a curve is $y = -2x^2 + \frac{10}{x}$. Work out the gradient of the curve at the point where x = 2.	
2 a = 8.96 and b = 3.38, both correct to 3 significant figures. Work out a × b. Write down your answer to a suitable degree of accuracy. You must show your working and give a reason for your answer. (Calculator)	
3 Solve $x^2 - x - 30 = 0$	
4 R is the region that satisfies all of these inequalities: $y \leq -2x + 6$ $x + y < 10$ $x \geq 1$ Which of these points lie in R? A(0, 1) B(1, 3) C(3, 7) D(5, 4) E(8, 9)	
5 Triangle ABC has AB = 17 cm and BC = 20 cm. The area of triangle ABC is 85 cm^2. Angle ABC is acute. Work out the size of angle ABC. Do not use a calculator.	

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6 A curve has equation $y = -3x - \frac{6}{x}$. Find the coordinates of the points on the curve where the gradient is 3.	
7 A rectangle has area 27 cm^2, correct to 2 significant figures. Its length is 6.2000000000000001776356839400250464677810668945312 5 cm, correct to 2 significant figures. Work out the upper bound of the width of the rectangle. Give your answer correct to 3 significant figures. (Calculator)	
8 A rectangle has area $(8 + 4\sqrt{3})$ cm^2 and length $(2 + 2\sqrt{3})$ cm. Find the width of the rectangle. Give your answer in the form $a + b\sqrt{3}$	
9 Priya invests £11,000 for 6 years at 4.5% per year compound interest. Work out the value of the investment at the end of the 6 years. Give your answer to the nearest penny. (Calculator)	
10 The curve $y = 2x^3 - 3x^2 - 25x - 3$ has gradient 11 at two points. Find the coordinates of these points.	