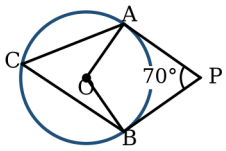
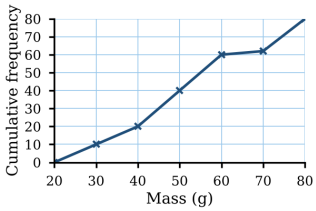
Day 5	IGCSE 10-a-day
1 $y = 3x^4 - x^2 - x + 4$ The curve crosses the y-axis at the point A. Work out the coordinates of A and the gradient of the curve at A.	
2 PA and PB are tangents to a circle, centre O. C is a point on the circle. Angle APB = 70°. (a) Work out the size of angle AOB. (b) Work out the size of angle ACB. The diagram is not drawn accurately. 	
3 A curve has equation $y = 2x^4 - 4x^2 + 8$. Find the coordinates of the stationary points of the curve and determine the nature of each.	
4 Solve $4 \tan x° + 2 = -2$ for $0 \leq x \leq 360$	
5 $y = \frac{(3x + 5)(x + 4)}{x}$ $(x \neq 0)$ (a) Show that $\frac{dy}{dx} = \frac{3x^2 - 20}{x^2}$. (b) Work out the gradient of the curve when x = 2.	

Day 5	IGCSE 10-a-day
6 $f(x) = x^2 - 2x - 3$ The graph of $y = f(x)$ is transformed. Find the equation of the graph after it is (a) stretched parallel to the y-axis with scale factor 3 (b) reflected in the y-axis	
7 The cumulative frequency graph gives information about the masses of 80 apples picked from a tree. (a) Find an estimate for the median and the interquartile range. (b) Estimate how many of the 80 had a mass greater than 25. 	
8 Here are the first five terms of a sequence. $-6, -13, -32, -69, -130$ The nth term is of the form $an^3 + bn + c$. Find the values of a, b and c.	
9 The volume of a cube is 745 cm^3, correct to the nearest cm^3. Work out the lower bound of the edge length of the cube. Give your answer correct to 3 significant figures. (Calculator)	
10 Show algebraically that the difference between the cubes of any two consecutive integers is always an odd number.	