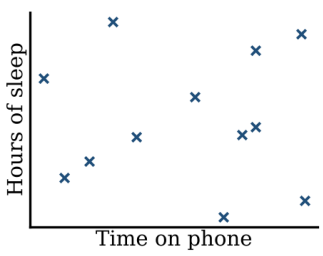
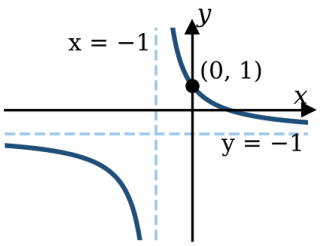
Day 22	A Level Maths: C Tier 10-a-day
1 An arithmetic sequence begins $-4, -1, 2, 5, \ldots$ Find (a) an expression for the nth term, (b) the 14th term.	
2 Find $\int (2x + 5)^5 \, dx$.	
3 For 7 data pairs, with hours of revision from 10 to 20, the regression line is $E = 19 + 2h$. Estimate exam score when $h = 25$ and comment on the reliability.	
4 The curve $y = x^2 + 3x$ is translated by the vector $\begin{pmatrix} 1 \\ -5 \end{pmatrix}$. Find the equation of the new curve, giving your answer in the form $y = ax^2 + bx + c$.	
5 The scatter diagram shows time on phone and hours of sleep for a group. Describe the correlation. 	

Day 22	A Level Maths: C Tier 10-a-day
6 A car's engine works at a constant rate of 7.5 kW. Find the driving force when the vehicle is moving at 15 m s^{-1}.	
7 The diagram shows the graph of $y = \frac{k}{x - a} + c$ with its asymptotes. Find the values of a, c and k. 	
8 Differentiate y = 1 tan x with respect to x.	
9 A car of mass 1500 kg tows a caravan of mass 1000 kg on a level road with acceleration 0.25 m s^{-2}. Resistances: 200 N on the car, 100 N on the caravan. Find the driving force and the tow bar tension.	
10 A(−2, −2), B(0, −4) and C(2, −6). Show that A, B and C are collinear and find AB : BC.	