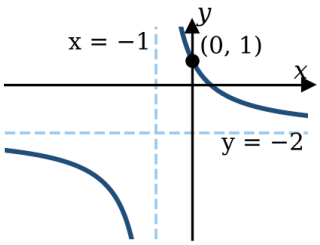
Day 39	A Level Maths: C Tier 10-a-day
1 A particle of mass 5 kg has acceleration 1.5 m s^{-2}. Find the magnitude of the resultant force acting on it.	
2 The test marks for two groups: School A has mean 60, standard deviation 7; School B has mean 72, standard deviation 6. Compare the two sets of data.	
3 A marble is thrown vertically upwards with speed 9.8 m s^{-1}. Take g = 9.8 m s^{-2}. (a) Find the time taken to reach its greatest height. (b) Find the greatest height reached.	
4 Prove that $(n + 6)^2 - (n - 6)^2$ is a multiple of 4 for every integer n.	
5 Solve $\ln (x + 2) - \ln x = \ln 2$.	

Day 39 **A Level Maths: C Tier 10-a-day**

6 The diagram shows the graph of $y = \frac{k}{x - a} + c$ with its asymptotes. Find the values of a, c and k.



7 Solve $5^{2x} = 100$.
Give your answer to 3 significant figures.

8 Evaluate $9^{\frac{1}{2}}$.

9 The probability that it rains is 0.2. If so, the probability that Sam is late is 0.5; otherwise it is 0.4.
Given that Sam is late, find the probability that it rains.

10 Solve $-4\sin^2 x + 2\cos x + 4 = 0$
for $0° \leq x \leq 360°$.