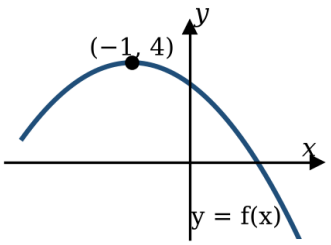
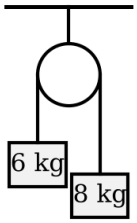
Day 1	A Level Maths: C Tier 10-a-day
1 (a) Convert 45° to radians, giving your answer in terms of π. (b) Convert $\frac{3\pi}{2}$ radians to degrees.	
2 A train starts from rest and moves in a straight line with constant acceleration 1 m s^{-2}. It travels 18 m. Find the time taken.	
3 X ~ B(50, 0.3). Use a normal approximation to find P(X ≤ 17), to 3 s.f.	
4 The diagram shows the curve y = f(x). The maximum point is shown. Write down the coordinates of the maximum point on the curve with equation (a) y = f(x + 3) (b) y = −f(x) 	
5 X ~ N(130, 3^2). Given that P(X < a) = 0.7, find a to 3 s.f.	

Day 1	A Level Maths: C Tier 10-a-day

6 Use the quotient rule to find the derivative of $y = \frac{\sin x}{x}$.

7 Two particles of masses 6 kg and 8 kg hang from the ends of a light inextensible string over a smooth pulley and are released from rest. Take g = 9.8 m s^{-2}. Find the acceleration and the tension in the string.



8 Express $\frac{-x + 17}{(x - 1)(x - 5)}$ in partial fractions.

9 The volume of a sphere increases at 18 cm^3/s. Find the rate of increase of the radius when r = 4. Give your answer to 3 s.f.

10 The diagram shows the curve $y = ab^x$, where b > 0.
Find the values of a and b.

