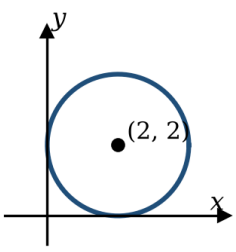
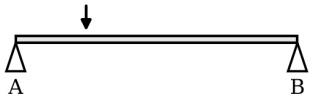
Day 18	A Level Maths: C Tier 10-a-day
1 A car moving in a straight line with constant acceleration increases its speed from 4 m s^{-1} to 14 m s^{-1} in 7 s. Find the distance it travels in this time.	
2 A company says that the probability a customer buys a ticket is 0.75. A researcher thinks that the probability is different. Let p be the probability that customer buys a ticket. Write down suitable hypotheses for a test on p.	
3 A is (−6, −5) and B is (−12, −13). Find the equation of the perpendicular bisector of AB, in the form ax + by = c with integer a, b and c.	
4 Find the exact value, in radians, of (a) arccos(−1) (b) arccos(1)	
5 The diagram shows a circle with the centre marked. The circle touches the x-axis. Find the equation of the circle. 	

Day 18	A Level Maths: C Tier 10-a-day
6 Solve $\ln(x + 4) - \ln x = \ln 5$.	
7 A uniform beam AB of mass 15 kg and length 8 m rests horizontally on supports at A and B. A load of mass 25 kg is placed on the beam 2 m from A. Take $g = 9.8$ m s^{-2}. Find the reaction at B.  	
8 The probability that a machine is set up wrongly is 0.5. If so, the probability that an item is faulty is 0.6; otherwise it is 0.1. Given that an item is faulty, find the probability that a machine is set up wrongly.	
9 Solve $\cos 2x = -\frac{\sqrt{3}}{2}$ for $0° \leq x \leq 180°$.	
10 $x^2 + kx + 9 = 0$ has equal roots. Find the possible values of k.	