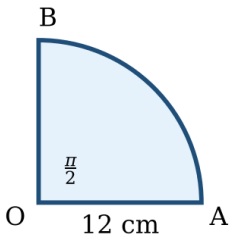
Day 19	A Level Maths: C Tier 10-a-day
1 $f(x) = x^2 - \ln x - 2$. Show that $f(x) = 0$ has a root between $x = 1$ and $x = 2$.	
2 $f(x) = 5x - 2$ and $g(x) = x^2 - 3$. Find (a) $fg(x)$, (b) $gf(x)$.	
3 A car moving in a straight line has initial speed 12 m s^{-1} and constant acceleration 2.5 m s^{-2}. Find its speed after 11 s.	
4 6 runners take part in a race. In how many ways can the first 3 places be filled?	
5 Solve the simultaneous equations: $y = x^2 - 7x + 4$, $y = -2x - 2$.	

Day 19	A Level Maths: C Tier 10-a-day
6 X ~ B(n, p) has mean 14.4 and variance 5.76. Find n and p.	
7 The diagram shows sector OAB of a circle. Find, in terms of π, (a) the arc length AB, (b) the area of the sector. 	
8 A box is on the point of sliding down a rough plane inclined at α to the horizontal, where tan α = $\frac{20}{21}$. Find the coefficient of friction.	
9 The line $y = -3x + k$ is a tangent to the curve $y = x^2 + 3x + 1$. Find the value of k.	
10 Given that $dy/dx = 12x^3$ and y = 0 when x = 0, find y in terms of x.	