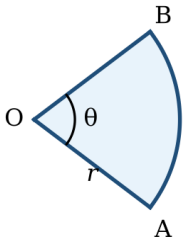
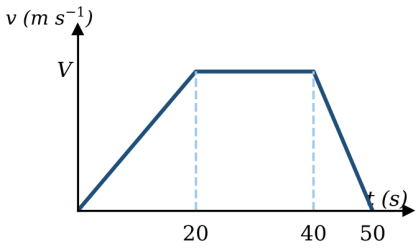
Day 35	A Level Maths: B Tier 10-a-day
1 R: has the condition; L: test is positive. P(R) = 0.6, P(L | R) = 0.4, P(L | R') = 0.25. (a) Find P(L). (b) Find P(R | L).	
2 $f(x) = x^2 - 6x + 4$ for $x \leq 5$. Find the range of f.	
3 The diagram shows a sector OAB of a circle with centre O, radius 5 cm and angle 1.6 radians. Find (a) the arc length AB, (b) the area of the sector. 	
4 Solve $\|-4x - 3\| > -3x + 3$.	
5 The height of the tide in a harbour is modelled by $H = 11 + 4\sin(\frac{\pi t}{12})$, where t is in hours after midnight. Find (a) the greatest and least values, (b) the values of t with $0 \leq t \leq 24$ when it equals 13 m.	

Day 35	A Level Maths: B Tier 10-a-day
6 A lift travels between floors in 50 s. The speed-time graph is a trapezium, with the maximum speed V m s^{-1} held from t = 20 to t = 40. The floors are 630 m apart. Find V, and the deceleration in the final stage.  	
7 The mass X g of a flour bag is normal with s.d. 5. Given P(X > 8.4) = 0.01, find the mean (3 s.f.).	
8 Particles A (6 kg) and B (9 kg) are joined by a light string over a smooth pulley. Both are held with the string taut, B is 4.5 m above the ground, then released. Take g = 9.8 m s^{-2}. Find the speed with which B hits the ground.	
9 Solve $(x - 5)x(x + 5) < 0$.	
10 (a) Write $21\cos\theta + 20\sin\theta$ in the form $R\cos(\theta - \alpha)$, with $R > 0$ and $0 < \alpha < 90°$. (b) Hence find its maximum value and the smallest $\theta \geq 0$ at which it occurs. Give α to 1 d.p.	