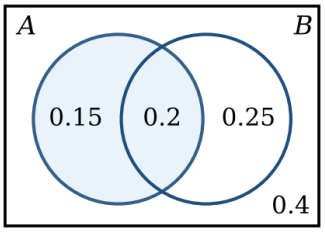
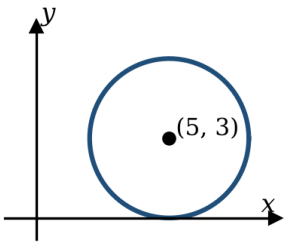
Day 128	A Level Maths: C Tier 10-a-day
1 $X \sim B(12, p)$. H_0: $p = 0.5$, H_1: $p < 0.5$. In a sample, $x = 2$. It is given that $P(X \leq 2) = 0.0193$. Test H_0 at the 5% significance level.	
2 Find the set of values of k for which $3x^2 + 4x + k = 0$ has real roots.	
3 By writing 15° as 45° − 30°, find the exact value of tan 15°.	
4 The Venn diagram shows probabilities for events A and B. Find P(A | B). 	
5 Solve the simultaneous equations: $y = x^2 - 6x + 8$, $y = -2x + 5$.	

Day 128	A Level Maths: C Tier 10-a-day
6 f(x) = 12 sin x + 5 cos x + 5. Write f(x) in the form R sin(x + α) + 5, with α in degrees to 1 d.p., and state the maximum value of f(x).	
7 A particle moving in a straight line with constant acceleration 0.5 m s^{-2} travels 32 m in 8 s. Find its initial speed.	
8 Solve $2\cos^2 x - \cos x = 0$ for $0° \leq x \leq 360°$.	
9 The diagram shows a circle with the centre marked. The circle touches the x-axis. Find the equation of the circle. 	
10 A brick is dropped from rest from the top of a cliff of height 4.9 m. Take g = 9.8 m s^{-2} and ignore air resistance. Find (a) the time taken to reach the ground, (b) its speed on hitting the ground.	