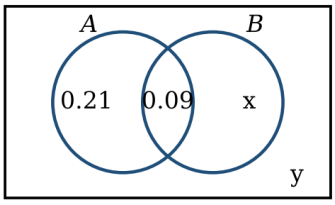
Day 80	A Level Maths: B Tier 10-a-day
1 Solve cos (x + 50°) = 0.55 for 0 ≤ x ≤ 360°, giving answers to 1 d.p.	
2 Two forces of magnitude 18 N and 24 N act at right angles on a particle. Find the magnitude of the resultant, and the angle it makes with the 18 N force, to 1 d.p.	
3 An arithmetic sequence has 7th term 33 and 11th term 49. (a) Find the first term and the common difference. (b) Find the sum of the first 30 terms.	
4 The Venn diagram shows probabilities for events A and B, which are independent. Find the values of x and y. 	
5 A sector of a circle has radius 13 cm and arc length 14.3 cm. Find (a) the angle of the sector in radians, (b) the area of the sector.	

Day 80	A Level Maths: B Tier 10-a-day
6 A circle passes through A(−5, −6) and B(−7, −2), and its centre lies on the y-axis. Find the centre and the equation of the circle.	
7 A ball is projected horizontally at 294 m s^{-1} from a point high above the ground. Take g = 9.8 m s^{-2}. Find the speed and the direction of motion 40 s later, to 1 d.p. below the horizontal.	
8 (a) Write $x^2 - 12x + 46$ in the form $a(x + p)^2 + q$. (b) Write down the coordinates of the minimum point of $y = x^2 - 12x + 46$.	
9 A curve has parametric equations $x = 2t^2$, $y = 4t$. Find the gradient at t = −2 and the equation of the normal there.	
10 A factory says a proportion 0.2 of its parts are defective. In a sample of 40 parts, 2 are defective. Test, at the 5% significance level, whether the proportion is different from 0.2.	