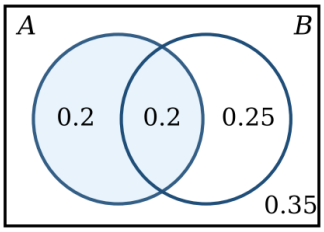
Day 99	A Level Maths: C Tier 10-a-day
1 A car of mass 500 kg is driven along a straight horizontal road by a driving force of 875 N against a constant resistance of 500 N. Find the acceleration of the car.	
2 The Venn diagram shows probabilities for events A and B. Find P(A | B).  	
3 Solve $5^{x+1} = 100$. Give your answer to 3 significant figures.	
4 $f(x) = x^2 - 1, x \geq 0$. Find $f^{-1}(x)$ and state its domain.	
5 Use the quotient rule to find the derivative of $y = \frac{x}{x+2}$.	

Day 99	A Level Maths: C Tier 10-a-day
6 A circle has equation $(x + 3)^2 + (y - 3)^2 = 16$. Determine whether the point P(−5, −5) is inside, outside or on the circle.	
7 f(x) = 15 sin x + 8 cos x + 1. Write f(x) in the form R sin(x + α) + 1, with α in degrees to 1 d.p., and state the maximum value of f(x).	
8 A uniform beam AB of mass 20 kg and length 8 m rests horizontally on supports at A and B. A load of mass 20 kg is placed on the beam 2 m from A. Take g = 9.8 m s^{-2}. Find the reaction at B. 	
9 Find the sum of the first 7 terms of the geometric series 128 + 64 + 32 + ...	
10 $X \sim N(135, 8^2)$. Given that P(X < a) = 0.8, find a to 3 s.f.	