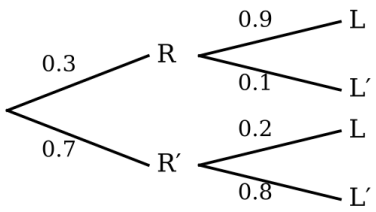
Day 332	A Level Maths: C Tier 10-a-day
1 A cyclist travelling at 15 m s^{-1} brakes uniformly and comes to rest after travelling 60 m. (a) Find the deceleration. (b) Find the time taken to stop.	
2 Each shot hits the target with probability 0.25. Find the probability of at least one hit in 3 shots, to 3 s.f.	
3 Find the remainder when $-3x^3 - 3x^2 - 5x + 6$ is divided by $(2x - 2)$.	
4 The tree diagram shows probabilities for events R and L. Find the probability that exactly one of R and L happens. 	
5 Sketch $y = \frac{5}{x-1} + 3$. Write down the equations of the asymptotes and the coordinates where the curve meets the axes.	

Day 332	A Level Maths: C Tier 10-a-day
6 Solve $\cos 2x = -\frac{1}{2}$ for $0° \leq x \leq 180°$.	
7 A particle moves in a straight line. Its displacement from O at time t seconds is s metres, where $s = 2t^3 + 4t^2 + 3t$. Find its velocity when $t = 4$.	
8 Express $12 \sin x + 5 \cos x$ in the form $R \sin(x + \alpha)$, where $R > 0$ and $0° < \alpha < 90°$. Give α to 1 decimal place.	
9 Prove by contradiction that there are no integers x and y such that $4x + 6y = 97$.	
10 Solve $2\cos^2 x + \cos x = 0$ for $0° \leq x \leq 360°$.	