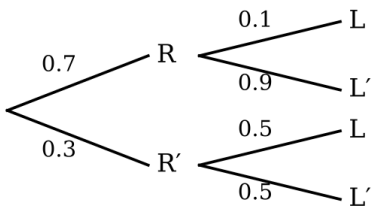
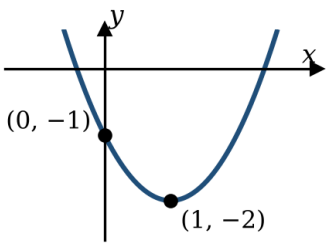
Day 201	A Level Maths: C Tier 10-a-day
1 A constant force of 20 N pulls a crate 6 m along rough horizontal ground against a constant frictional force of 12 N. Find (a) the work done by the pulling force, (b) the work done against friction.	
2 Simplify $\sqrt{20} + \sqrt{80}$, giving your answer in the form $p\sqrt{5}$.	
3 Three forces $(-2\mathbf{i} + 5\mathbf{j})$ N, $(p\mathbf{i} + q\mathbf{j})$ N and $(-\mathbf{i} - 8\mathbf{j})$ N act on a particle which is in equilibrium. $\mathbf{i}$ and $\mathbf{j}$ are perpendicular unit vectors. Find the values of p and q.	
4 The tree diagram shows probabilities for events R and L. Find the probability that exactly one of R and L happens.  	
5 A(1, −2), B(13, −6) and C(28, −11). Show that A, B and C are collinear and find AB : BC.	

Day 201	A Level Maths: C Tier 10-a-day

6 Solve $x^{\frac{4}{3}} = 256$.

7 Solve $-4\sin^2 x + 2\cos x + 2 = 0$
for $0° \leq x \leq 360°$.

8 The diagram shows a sketch of a quadratic curve.
Find its equation in the form $y = a(x - p)^2 + q$.



9 A bag has 7 red and 7 blue marbles. Two are taken at random without replacement.
Find the probability that they are different colours.

10 In the diagram, OA = **a**, OB = **b**, and P lies on AB with AP : PB = 2 : 3.
Find AB and OP in terms of **a** and **b**.

