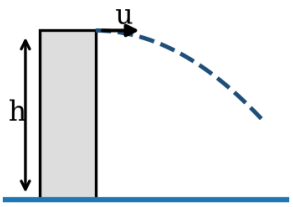
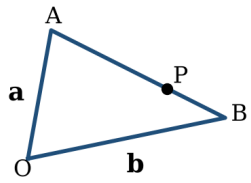
Day 323	A Level Maths: C Tier 10-a-day
1 M(2, 3) is the midpoint of the line segment AB. A is the point (−2, 2). Find the coordinates of B.	
2 Simplify $6\sin^2 x + 6\cos^2 x$.	
3 X ~ B(17, 0.7). Find P(X > 14), giving your answer to 3 s.f.	
4 £1000 invested at 5% compound interest per year. After how many whole years will it first exceed £2000?	
5 A ball is thrown horizontally at 14 m s^{-1} from the top of a vertical cliff of height 4.9 m above the sea. Take g = 9.8 m s^{-2}. Find (a) the time taken to reach the sea, (b) the horizontal distance of the landing point from the cliff. 	

Day 323	A Level Maths: C Tier 10-a-day
6 A is (6, −2) and B is (14, −10). Find the equation of the perpendicular bisector of AB, in the form ax + by = c with integer a, b and c.	
7 X ~ B(80, 0.6). Use a normal approximation to find P(X ≤ 50), to 3 s.f.	
8 In the diagram, OA = **a**, OB = **b**, and P lies on AB with AP : PB = 2 : 1. Find AB and OP in terms of **a** and **b**. 	
9 A car moving in a straight line has initial speed 8 m s^{-1} and constant acceleration 3 m s^{-2}. Find its speed after 11 s.	
10 When $x^3 + kx^2 - 2x - 6$ is divided by (x + 3), the remainder is −9. Find the value of k.	