Day 13	A Level Maths: C Tier 10-a-day
1 Solve $11 \leq 3x + 2 < 17$.	
2 Solve $e^{2x+2} = 12$. Give your answer to 3 significant figures.	
3 A stratified sample of size 20 is taken from 100 students: 45 Under 30, 40 30 to 50, 15 Over 50. How many 30 to 50 should be in the sample?	
4 Water fills a tank with a square base of side 4 m. The depth h m increases at 0.1 m/min. Find the rate of increase of volume.	
5 Find the sum of the first 7 terms of the geometric series 4 + 8 + 16 + ...	

Day 13	A Level Maths: C Tier 10-a-day
6 Car P passes a point O at constant speed 3.25 m s^{-1}. At that instant car Q starts from rest at O with constant acceleration 0.5 m s^{-2} in the same direction. Find the time when Q catches up P.	
7 Express $\frac{3x - 9}{(x - 4)(x - 5)}$ in partial fractions.	
8 A uniform rod AB of mass 6 kg and length 6 m is supported by a pivot 0.25 m from A. A particle of mass m kg is attached at A and the rod rests horizontally in equilibrium. Find m.	
9 Solve $\cos x = -0.40$ for $0° \leq x \leq 360°$. Give your answers to 1 decimal place.	
10 The probability that it rains is 0.4. If so, the probability that Sam is late is 0.6; otherwise it is 0.1. Given that Sam is late, find the probability that it rains.	