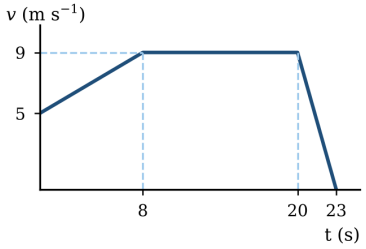
Day 326	A Level Maths: C Tier 10-a-day
1 Solve (a) $e^x = 20$ (b) $\ln x = 2.5$ Give answers to 3 significant figures.	
2 A player says that she wins a game with probability 0.75. A researcher believes that the probability is lower. Let p be the probability that she wins a game. Write down suitable hypotheses for a test on p.	
3 $f(x) = x^2 - \ln x - 6$. Show that $f(x) = 0$ has a root between $x = 2$ and $x = 3$.	
4 $(x - 3)$ is a factor of $x^3 + kx^2 - 4x - 60$. Find the value of k.	
5 A stone is thrown vertically downwards at 12 m s^{-1} from the top of a cliff and hits the sea after 2 s. Taking g = 9.8 m s^{-2}, find the height of the cliff.	

Day 326	A Level Maths: C Tier 10-a-day
6 Given that dy/dx = 5xy and y = 3 when x = 0, find y in terms of x.	
7 Solve $27^x = 81$.	
8 A stratified sample of size 16 is taken from 112 employees: 70 Primary, 42 Secondary. How many Primary should be in the sample?	
9 The graph shows the velocity of a skater. (a) Find the acceleration in the first 8 s. (b) Find the deceleration in the last 3 s. (c) Find the total distance travelled. 	
10 Prove by contradiction that if 3n + 10 is even, then n is even, where n is an integer.	