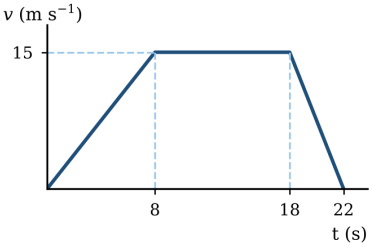
Day 2	A Level Maths: C Tier 10-a-day
1 Here are 5 values: 6, 5, 18, 12, 4 Find the mean and the standard deviation, to 3 s.f.	
2 Find the exact value, in radians, of (a) $\arccos(-1)$ (b) $\arcsin(-\frac{1}{2})$	
3 Sketch $y = (x + 5)(x - 1)(x - 3)$. Write down the coordinates of the points where the curve meets the axes.	
4 Solve $\sin 3x = -\frac{1}{2}$ for $0° \leq x \leq 120°$.	
5 X ~ B(n, p) has mean 4 and variance 3.2. Find n and p.	

Day 2	A Level Maths: C Tier 10-a-day
6 A car of mass 1200 kg tows a caravan of mass 800 kg on a level road with acceleration 1 m s^{-2}. Resistances: 300 N on the car, 150 N on the caravan. Find the driving force and the tow bar tension.	
7 Describe the single transformation that maps the graph of y = f(x) onto the graph of y = f(x − 4).	
8 The graph shows the velocity of a lift over 22 seconds as it moves in a straight line. (a) Find its acceleration in the first 8 s. (b) Find the total distance travelled. 	
9 $f(x) = x^3 - 2x^2 - 16x + 32$ (a) Show that (x − 4) is a factor of f(x). (b) Factorise f(x) completely.	
10 $\mathbf{a} = 4\mathbf{i} + 3\mathbf{j}$ and $\mathbf{b} = -8\mathbf{i} + k\mathbf{j}$, where k is a constant. Given that a and b are parallel, find the value of k.	