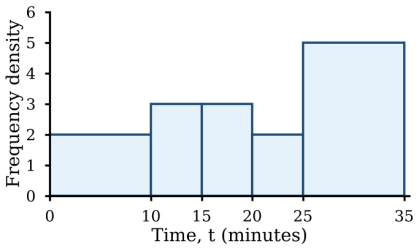
Day 52	A Level Maths: C Tier 10-a-day
1 Write $2x^2 + 12x + 14$ in the form $a(x + p)^2 + q$.	
2 A particle of mass 10 kg hangs from a light string and is raised vertically with acceleration 0.5 m s^{-2}. Taking g = 9.8 m s^{-2}, find the tension.	
3 The histogram shows the times, t minutes, taken by some people to complete a puzzle. Find the number of people who took between 10 and 20 minutes.  	
4 Use the product rule to differentiate $y = x^1 \ln x$.	
5 X ~ B(40, 0.6). Use a normal approximation to find P(X ≥ 22), to 3 s.f.	

Day 52	A Level Maths: C Tier 10-a-day
6 Variables x and y satisfy $y = ab^x$. A graph of $\log_{10} y$ against x is a straight line with gradient 0.7 and intercept 1.5. Find a and b to 3 significant figures.	
7 $f(x) = \sqrt{x + 3} + 2$. State the largest possible domain and the range of f.	
8 A constant force of 80 N pulls a crate 10 m along rough horizontal ground against a constant frictional force of 10 N. Find (a) the work done by the pulling force, (b) the work done against friction.	
9 Find the exact value, in radians, of (a) $\arctan(-1)$ (b) $\arccos(1)$	
10 Sketch $y = \frac{1}{x - 1} + 1$. Write down the equations of the asymptotes and the coordinates where the curve meets the axes.	