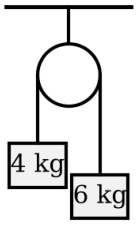
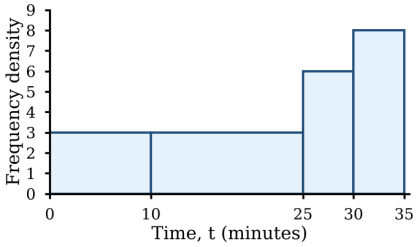
Day 94	A Level Maths: C Tier 10-a-day
1 A particle of mass 8 kg has acceleration 2.5 m s^{-2}. Find the magnitude of the resultant force acting on it.	
2 A circle has equation $(x - 1)^2 + y^2 = 16$. Determine whether the point P(7, 1) is inside, outside or on the circle.	
3 Find the exact value, in radians, of (a) $\arcsin(-1)$ (b) $\arcsin(-\frac{1}{2})$	
4 Solve $x^2 - 4x \geq 0$.	
5 (a) Show that $x^3 - x - 9 = 0$ can be rearranged to $x = (x + 9)^{\frac{1}{3}}$. (b) Use x_{n+1} = this formula with $x_0 = 2$ to find x_1, x_2 to 3 d.p.	

Day 94 **A Level Maths: C Tier 10-a-day**

6 Two particles of masses 4 kg and 6 kg hang from the ends of a light inextensible string over a smooth pulley and are released from rest. Take g = 9.8 m s^{-2}. Find the acceleration and the tension in the string.



7 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 30 minutes.



8 When $x^3 + kx^2 - 6x + 15$ is divided by $(x - 2)$, the remainder is -9. Find the value of k.

9 Solve $2\sin^2 x + \sin x - 1 = 0$ for $0° \leq x \leq 360°$.

10 The values x are coded using $y = (x - 40) \div 4$.
The coded values have mean $\bar{y} = 3.1$ and standard deviation 1.
Find the mean and standard deviation of x.