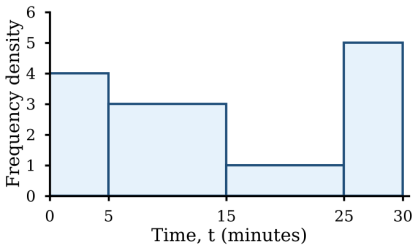
Day 250 **A Level Maths: C Tier 10-a-day**

1 The histogram shows the times, t minutes, taken by some people to complete a puzzle. Find the number of people who took between 5 and 25 minutes.

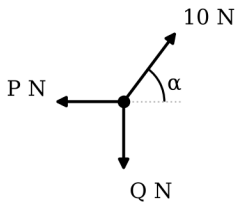


2 A sector has radius 12 cm and angle $\frac{\pi}{2}$ radians.
Find the arc length, leaving π in your answer, and the perimeter.

3 A car decelerates uniformly from 8 m s^{-1} to rest in 8 s. Find (a) the deceleration, (b) the distance travelled while decelerating.

4 Write down the exact values of
(a) sec 210° (b) cot 300°

5 $f(x) = -5x - 4$.
Find $f^{-1}(x)$.

Day 250	A Level Maths: C Tier 10-a-day
6 A particle is in equilibrium under the three forces shown. $\cos\alpha = \frac{3}{5}$. Find P and Q. 	
7 $f(x) = x^3 - 6x^2 + 5x + 12$ (a) Show that $(x + 1)$ is a factor of $f(x)$. (b) Factorise $f(x)$ completely.	
8 Use the quotient rule to find the derivative of $y = \frac{x^2}{x + 4}$.	
9 A bag has 5 red and 3 blue sweets. Two are taken at random without replacement. Find the probability that they are both the same colour.	
10 A circle has equation $(x + 2)^2 + (y + 3)^2 = 49$. Determine whether the point P(3, 8) is inside, outside or on the circle.	