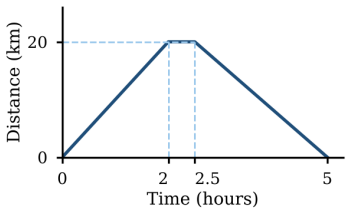
Day 292	S Tier 10-a-day
1 Given that $\sqrt{63} + \sqrt{175} = \sqrt{n}$, find the value of n.	
2 In triangle PQR, side QR is extended to S. Angle QPR = (3x − 15)° Angle PQR = (2x)° Angle PRS = (4x + 4)° (a) Work out the value of x. (b) Work out the size of angle PRQ.	
3 Solve $8x^2 - 6x = -1$	
4 A 30% decrease followed by a 60% increase is equivalent to a single percentage change. Work out the single percentage change that has the same effect.	
5 The graph shows Zane's cycle ride to a café and back. (a) Work out Zane's speed on the way back. (b) Work out Zane's average speed for the whole ride, including the stop. 	

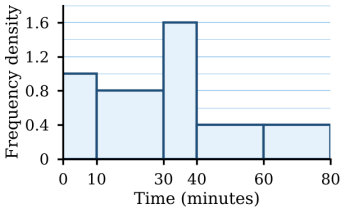
Day 292	S Tier 10-a-day

6 The point P(−4, 2) is reflected in the x-axis.
The image is then reflected in the y-axis.
(a) Write down the coordinates of the final image of P.
(b) Describe fully the single transformation that is equivalent to these two transformations.

7 Work out the square root of 5.29×10^{-8}.
Give your answer in standard form.

8 A is the point (−1, 1) and B is the point (−5, −7).
Find an equation of the perpendicular bisector of AB.
Give your answer in the form y = mx + c.

9 The histogram shows the times of people spent waiting at a clinic.
(a) Work out the total number of people.
(b) Estimate the number of people with a time between 20 minutes and 55 minutes.



10 Solve the simultaneous equations
$x^2 + y^2 = 13$
$y = x + 5$