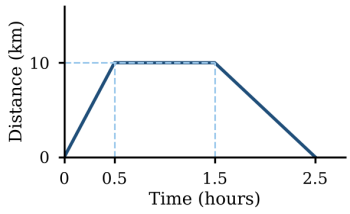
Day 65	S Tier 10-a-day
1 The capacity of a tank is 235 litres, correct to the nearest 5. Write down the error interval for the capacity of a tank, using c.	
2 In triangle PQR, PQ = 20 cm and angle PQR = 30°. The area of the triangle is 60 cm^2. Work out the length of QR. Do not use a calculator.	
3 The graph shows Hassan's cycle ride to a café and back. (a) Work out Hassan's speed on the way back. (b) Work out Hassan's average speed for the whole ride, including the stop. 	
4 Prove that the product of (5n − 1) and (5n + 1) is always 1 less than a multiple of 25.	
5 Nadia invests £11,500 at 2% per year compound interest. After how many whole years will the investment first be worth more than £13,300? (Calculator)	

Day 65	S Tier 10-a-day
6 The point P(12, −1) lies on the graph of y = f(x). Write down the coordinates of the image of P on the graph of (a) y = f(x) − 3 (b) y = f(x − 3)	
7 Work out $(6.5 \times 10^7) \div (2.5 \times 10^5)$ Give your answer in standard form.	
8 A train travels at a constant speed of 90 km/h. It takes 20 seconds to cross completely over a bridge which is 140 m long. Work out the length of the train, in metres.	
9 A sector of a circle has radius 20 cm and angle 180°. The sector is made into a cone by joining the two straight edges together. (a) Work out the radius of the base of the cone. (b) Work out the exact volume of the cone. Give your answer in terms of π, as a surd if necessary.	
10 Prove that the difference between the cubes of any two consecutive integers is always an odd number.	