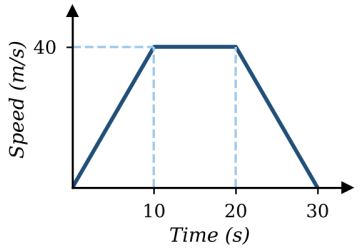
Day 4	S Tier 10-a-day
1 Work out the value of $\sqrt{b^2 - 4ac}$ when a = 3, b = 1 and c = −4.	
2 The mean of 6 numbers is 14.5. One number is removed and the mean of the remaining 5 numbers is 15.4. Work out the number that was removed.	
3 The price of a phone is increased by 50%. The new price is then decreased by 40%. Work out the overall percentage change in the price.	
4 Oscar changes £600 into dollars at £1 = $1.3. Oscar spends $300 and then changes the rest back into pounds at £1 = $1.6. How many pounds does Oscar get back?	
5 A sector of a circle has radius 13 cm and angle 135°. (a) Work out the length of the arc of the sector. (b) Work out the area of the sector. Give each answer in terms of π.	

Day 4	S Tier 10-a-day
6 The edge length of a cube is increased by 10%. Work out the percentage change in the volume of the cube.	
7 A solid cone has base radius 2 cm and height 27 cm. It is melted down and recast into a solid sphere. Work out the radius of the sphere. The volume of a cone is $\frac{1}{3}\pi r^2 h$ and the volume of a sphere is $\frac{4}{3}\pi r^3$.	
8 A population is decreased by x% in one year and then decreased by a further x% the next year. Over the two years the population decreases by 43.75%. Work out the value of x.	
9 The graph shows the speed of a train between two stations. (a) Work out the acceleration in the first 10 seconds. (b) Work out the total distance. 	
10 The probability that it rains on a day is 0.7. If it rains, the probability that Ali is late for school is 0.7. If it does not rain, the probability that Ali is late is 0.3. (a) Work out the probability that Ali is late. (b) Ali is late. Work out the probability that it rained.	