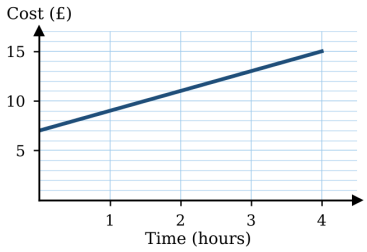
Day 20	B Tier 10-a-day
1 Matchsticks are used to make a row of pentagons. 1 pentagon needs 5 matchsticks, 2 pentagons need 9 and 3 pentagons need 13. (a) Find an expression, in terms of n, for the number of matchsticks needed for n pentagons. (b) Dan uses 65 matchsticks to make a row. How many pentagons are in his row?	
2 Triangle XYZ is isosceles with XY = XZ. Angle XYZ = 31°. Work out the size of angle YXZ.	
3 Estimate the value of $\frac{2.63 \times 4.35}{0.374}$ Show your rounding to 1 significant figure.	
4 Each interior angle of a regular polygon is 90°. Work out the number of sides of the polygon.	
5 A block exerts a force of 750 newtons on the floor. The area in contact with the floor is 25 m^2. Work out the pressure on the floor. Give your answer in N/m^2.	

Day 20	B Tier 10-a-day
6 A cube has side length 4 cm. Work out the total surface area of the cube.	
7 Work out (a) 3^{-3} (b) $11^0 + \sqrt{4}$	
8 In a room, the ratio of Year 10 students to Year 11 students is 3 : 7. There are 14 Year 11 students. More Year 10 students join so that there are equal numbers of Year 10 students and Year 11 students. How many Year 10 students join?	
9 A plumber charges a call-out fee plus a cost for each hour of work. The graph shows the total cost. (a) Write down the fixed charge. (b) Work out the cost for each hour. 	
10 Town A has a population density of 25 people per km^2. Its area is 4 km^2. Work out its population.	