Day 28	B Tier 10-a-day
1 Write the ratio 0.08 kg : 400 g in its simplest form.	
2 Write 147 as a product of its prime factors. Give your answer in index form.	
3 A cube has side length 13 cm. Work out the total surface area of the cube.	
4 A rectangle has length (4x + 7) cm and width (2x + 4) cm. Write down an expression, in terms of x, for the perimeter of the rectangle. Give your answer in its simplest form.	
5 Kira earns £14 per hour for the first 35 hours worked each week. Any extra hours are paid at time and a half. Last week Kira worked 43 hours. Work out Kira's total pay for last week.	

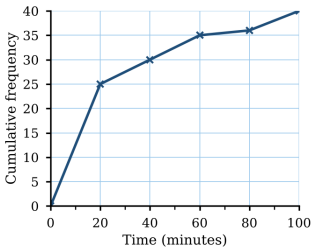
Day 28	B Tier 10-a-day

6 Matchsticks are used to make a row of hexagons.
1 hexagon needs 6 matchsticks, 2 hexagons need 11 and 3 hexagons need 16.
(a) Find an expression, in terms of n, for the number of matchsticks needed for n hexagons.
(b) Dan uses 81 matchsticks to make a row.
How many hexagons are in his row?

7 A triangular prism has a right-angled triangle as its cross-section.
The two shorter sides of the triangle are 3 cm and 10 cm.
The length of the prism is 6 cm.
Work out the volume of the prism.

8 There are 7.1×10^2 cells in a sample.
The number doubles every day.
How many are there after 5 days?
Give your answer in standard form.

9 The cumulative frequency graph shows the times taken by 40 students to complete a puzzle.
(a) Use the graph to estimate the median.
(b) Work out an estimate for the interquartile range.



10 A triangle has sides of length 25 cm, 7 cm and 24 cm.
Is the triangle right-angled?
You must show your working.