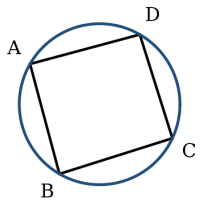
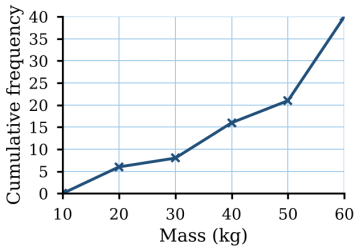
Day 343	A Tier 10-a-day
1 Work out $3\frac{1}{2} \times 4\frac{1}{3}$ Give your answer as a mixed number in its simplest form.	
2 Here are the ingredients for 10 cupcakes. Sugar: 300 g Oats: 200 g Flour: 250 g (a) Work out how much sugar is needed for 9 cupcakes. (b) Hannah has 508 g of oats. What is the greatest number of cupcakes she can make?	
3 Solve $x^2 - 6x + 1 = 0$ Give your solutions correct to 2 decimal places. (Calculator)	
4 A block exerts a force of 125 N on the floor. The area in contact with the floor is 2.5 m^2. Work out the pressure on the floor in N/m^2.	
5 A straight line has equation $3x + 5y = -3$ (a) Find the gradient of the line. (b) Find the coordinates of the point where the line crosses the x-axis.	

Day 343 **A Tier 10-a-day**

6 A, B, C and D are points on a circle.
Angle B = (5x − 20)° and angle D = (2x + 39)°.
(a) Work out the value of x.
(b) Work out the size of angle B.
The diagram is not drawn accurately.



7 The cumulative frequency graph shows information about the mass of 40 parcels.
Use the graph to find an estimate for
(a) the median,
(b) the number of parcels with a mass greater than 20 kg.



8 Mo runs around a track in 30 seconds.
Femi runs around the same track in 50 seconds.
They start together at the start line and keep running.
How many laps will each have run when they are next together at the start line?

9 Solve the simultaneous equations
$y = x^2 - 2x + 4$
$y = x + 8$

10 Ship A sails 16 miles from a port on a bearing of 075°.
Ship B sails 24 miles from the same port on a bearing of 195°. (Calculator)
Work out the distance between the two ships.
Give your answer to 3 significant figures.