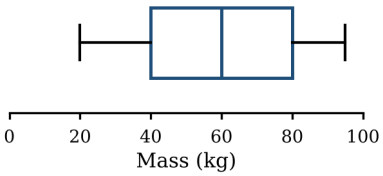
Day 253	A Tier 10-a-day
1 Work out $1\frac{1}{5} \times 1\frac{1}{2}$ Give your answer as a mixed number in its simplest form.	
2 A circular pond has diameter 4 m. Work out, in terms of π, (a) the circumference, (b) the area.	
3 Here are the ingredients for 4 muffins. Flour: 200 g Milk: 120 ml Butter: 40 g (a) Work out how much flour is needed for 9 muffins. (b) Hannah has 772 ml of milk. What is the greatest number of muffins she can make?	
4 A straight line has equation $2x + 5y = -6$ (a) Find the gradient of the line. (b) Find the coordinates of the point where the line crosses the x-axis.	
5 Solve $9^x = \frac{1}{3}$	

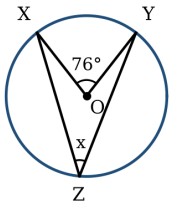
Day 253 **A Tier 10-a-day**

6 The box plot shows the masses, in kg, of the parcels in delivery A.
(a) Write down the median and the interquartile range.
For delivery B the median is 70 and the interquartile range is 30.
(b) Compare the distributions of the two deliveries.



7 The graph of y = f(x) has a minimum point at (2, −2).
Write down the coordinates of the turning point of the graph of
(a) y = f(−x)
(b) y = f(x − 2)

8 X, Y and Z are points on a circle with centre O.
Angle XOY = 76°.
Work out the size of angle x.
Give a reason for your answer.



9 The number of visitors to a museum was 140 and is now 161.
Work out the percentage increase.

10 Boat P sails 15 km from a harbour on a bearing of 065°.
Boat Q sails 14 km from the same harbour on a bearing of 290°. (Calculator)
Work out the distance between the two boats.
Give your answer to 3 significant figures.