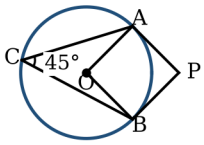
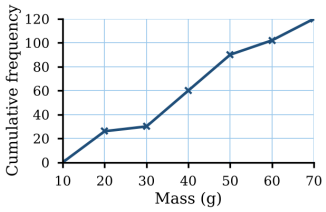
Day 347	S Tier 10-a-day
1 Solve $\frac{x-5}{2} + \frac{x-5}{5} = -7$	
2 The speed of a cyclist is 4 km/h, correct to 1 significant figure. Write down the error interval for the speed of a cyclist, using s.	
3 PA and PB are tangents to a circle, centre O. C is a point on the circle. Angle ACB = 45°. (a) Work out the size of angle AOB. (b) Work out the size of angle APB. The diagram is not drawn accurately. 	
4 Evan drives 30 km at an average speed of 20 km/h. The drive then continues for another 75 km at an average speed of 75 km/h. Work out the average speed for the whole journey.	
5 The product of two positive numbers is 130. The larger number is 3 more than the smaller number. Let the smaller number be n. (a) Show that $n^2 + 3n - 130 = 0$ (b) Work out the two numbers.	

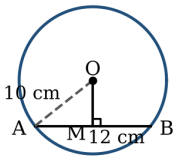
Day 347 **S Tier 10-a-day**

6 A shop buys a watch for £170.
It adds a 50% mark-up to get the selling price.
In a sale the selling price is reduced by 25%.
Work out the percentage profit or loss on the original cost.

7 The cumulative frequency graph gives information about the masses of 120 apples picked from a tree.
(a) Find an estimate for the median and the interquartile range.
(b) Estimate how many of the 120 had a mass greater than 65.



8 AB is a chord of a circle, centre O. M is the midpoint of AB. (Calculator)
(a) Work out the length OM.
(b) Work out angle AOB, to 1 decimal place.
The diagram is not drawn accurately.



9 Find the smallest positive integer k such that $540 \times k$ is a square number.

10 Dina and Hassan play a match. The first to win 2 chess games wins the match.
The probability that Dina wins any one of the chess games is $\frac{1}{3}$.
Work out the probability that the match needs a third one to decide it.