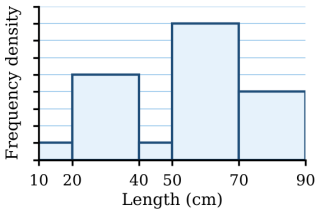
Day 318 **IGCSE 10-a-day**

1 The histogram shows the lengths of leaves collected from a tree.
200 of them had a length between 20 and 40 cm.
(a) How many had a length between 40 and 50 cm?
(b) How many leaves are there in total?

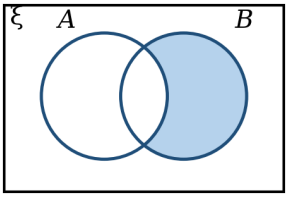


2 Solve $5 \sin x° + 3 = 3$ for $0 \leq x \leq 360$

3 A radioactive sample has a mass of 480 g. Its mass halves every 5 hours.
(a) Work out the mass after 15 hours.
(b) After how many hours will the mass first be less than 5 g?

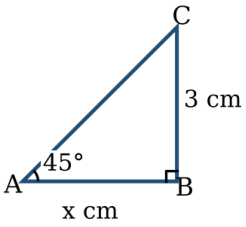
4 The line $y = -4x - 1$ is parallel to the tangent at the point P on the curve $y = -2x^2 - 4x$.
Find the coordinates of P.

5 Write down the set notation for the region shaded in the Venn diagram.

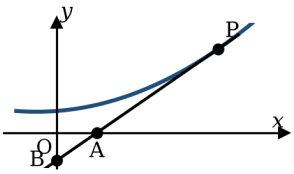


Day 318 **IGCSE 10-a-day**

6 ABC is a right-angled triangle.
Work out the exact value of x. Give your answer in its simplest form.
The diagram is not drawn accurately.



7 The diagram shows the curve $y = x^2 + x + 7$ and the tangent at P(4, 27), meeting the axes at A and B.
(a) Find an equation of the tangent at P.
(b) Work out the area of triangle OAB.



8 a = 7.7 and b = 4.6,
both correct to 1 decimal place.
Work out the upper bound of a ÷ b.
Give your answer correct to 3 significant figures.

9 The curve C has equation $y = 2x^2 - 3x + 1$.
The points A and B on C have x coordinates −3 and 0.
The tangents to C at A and at B meet at the point T. Find the coordinates of T.

10 A workshop makes x tables and y chairs each week.
Each table needs 1 hour of work and 1 metre of wood. Each chair needs 2 hours of work and 1 metre of wood.
There are 14 hours of work and 9 metres of wood available.
The income is £8 for each table and £9 for each chair.
(a) Write down two inequalities, other than $x \geq 0$, $y \geq 0$. (b) Find the greatest income.