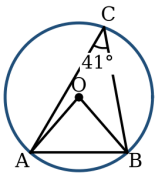
Day 91 **IGCSE 10-a-day**

1 The table shows how 119 adults choose a drink.
Two people are picked at random without replacement. Work out the probability that both are in the group "Women" and chose Coffee.

	Tea	Coffee	Juice	Total
Men	30	25	9	64
Women	12	21	22	55
Total	42	46	31	119

2 $y = (x - 3)(x + 1)$
Find $\frac{dy}{dx}$.

3 A, B and C are points on a circle, centre O.
Angle ACB = 41°.
(a) Work out the size of angle AOB.
(b) Work out the size of angle OAB.
The diagram is not drawn accurately.



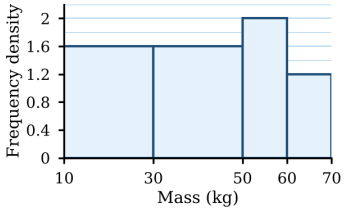
4 Rationalise the denominator of $\frac{6}{2\sqrt{3}}$
Give your answer in its simplest form.

5 ξ = integers from 1 to 24
A = the factors of 30
B = the multiples of 2
(a) List the elements of $A \cap B'$.
(b) Find $n(A' \cap B')$.

Day 91 **IGCSE 10-a-day**

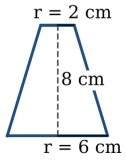
6 The line $y = 9x + k$ is a tangent to the curve $y = -2x^2 + x - 4$.
Find the value of the constant k.

7 The histogram shows the masses of parcels delivered by a courier.
(a) Work out the total number of parcels.
(b) Estimate the number of parcels with a mass between 20 kg and 55 kg.



8 $y = x + \frac{4}{x}$
Find the values of x for which y is increasing.

9 A cone is cut parallel to its base to make a smaller cone and a frustum.
The frustum has height 8 cm, top radius 2 cm and base radius 6 cm.
Work out the volume of the frustum. Give your answer in terms of π.



10 $f(x) = \frac{x + 7}{3x - 2}$
(a) Find $f^{-1}(x)$.
(b) Find the value of $f^{-1}(8)$.