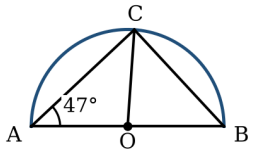
Day 74	S Tier 10-a-day

1 AB is a diameter of a circle, centre O. C is a point on the circle. Angle BAC = 47°.
(a) Work out the size of angle ACB.
(b) Work out the size of angle COB.
The diagram is not drawn accurately.



2 Solve $x^2 - 6x - 4 = 0$
Give your answers in the form $a \pm \sqrt{b}$

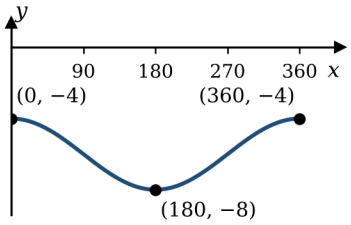
3 The volume of juice is 630 litres, correct to the nearest 10.
Write down the error interval for the volume of juice, using v.

4 The curve $y = x^2 - 18x + 65$ crosses the x-axis at the points A and B.
(a) Find the coordinates of A and B.
(b) Find the coordinates of the minimum point of the curve.

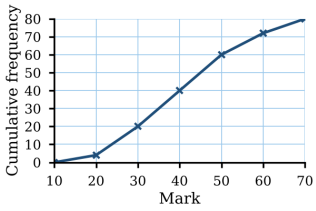
5 Uma spent $\frac{2}{5}$ of her money on a phone.
She then spent $\frac{1}{7}$ of the money that was left on a case.
A case cost £303.
How much money did Uma have to start with?

Day 74	S Tier 10-a-day

6 The diagram shows the graph of y = a cos x° + c for 0 ≤ x ≤ 360.
Some points on the graph are labelled.
Find the value of a and the value of c.



7 The cumulative frequency graph gives information about the marks of 80 students in a test.
(a) Find an estimate for the median and the interquartile range.
(b) Estimate how many of the 80 had a mark greater than 45.



8 A sector of a circle has radius 10 cm and angle 180°.
The sector is made into a cone by joining the two straight edges together.
(a) Work out the radius of the base of the cone.
(b) Work out the exact volume of the cone.
Give your answer in terms of π, as a surd if necessary.

9 Amir changes £800 into dollars at £1 = $1.15.
Amir spends $700 and then changes the rest back into pounds at £1 = $1.25.
How many pounds does Amir get back?

10 A rare car is worth £8,000.
Its value increases by 12% each year.
After how many whole years will it first be worth more than £20,000? (Calculator)