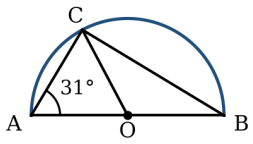
Day 213	S Tier 10-a-day

1 AB is a diameter of a circle, centre O. C is a point on the circle. Angle BAC = 31°.
(a) Work out the size of angle ACB.
(b) Work out the size of angle COB.
The diagram is not drawn accurately.

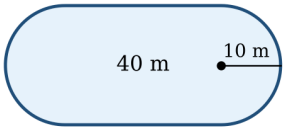


2 Write $\sqrt{20} + \sqrt{125} + \sqrt{45}$ in the form $a\sqrt{5}$ where a is an integer.

3 ABC is an isosceles triangle with AB = AC.
Angle BAC = (4x + 20)°
Angle ABC = (3x + 20)°
(a) Work out the value of x.
(b) Work out the size of angle BAC.

4 Oscar changes £600 into euros at £1 = €1.35.
Oscar spends €40 and then changes the rest back into pounds at £1 = €1.6.
How many pounds does Oscar get back?

5 The diagram shows a running track made from a rectangle and two semicircles.
(a) Work out the total length of the boundary of the track.
(b) Work out the area enclosed by the track.
Give your answers in terms of π.
The diagram is not drawn accurately.



Day 213 **S Tier 10-a-day**

6 A price is decreased by 50%.
By what percentage must the new value be increased to get back to the original value?

7 Solve $x - 5\sqrt{x} + 6 = 0$

8 A rectangle has length 30 cm and width 14 cm.
Both measurements are correct to the nearest centimetre.
Evan says that the perimeter of the rectangle could be exactly 91 cm.
Is Evan correct? You must show your working.

9 The table gives information about the masses of some eggs.
An estimate for the mean is 18.8.
Work out the value of x.

Mass, m (g)	Frequency
$0 < m \leq 10$	17
$10 < m \leq 20$	x
$20 < m \leq 30$	4
$30 < m \leq 40$	16

10 Make x the subject of $y(x + 5) = x - y$