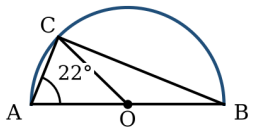
Day 116 **S Tier 10-a-day**

1 AB is a diameter of a circle, centre O. C is a point on the circle. Angle BAC = 22°.
(a) Work out the size of angle ACB.
(b) Work out the size of angle COB.
The diagram is not drawn accurately.



2 (a) Solve $-2 - 6x \leq 10$
(b) n is an integer. Write down all the values of n that satisfy
$4 \leq 3n + 1 \leq 13$

3 Given that $\frac{27^2 \times 3^4}{9^2} = 3^n$,
find the value of n.

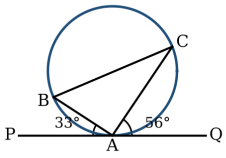
4 The table shows the monthly sales (thousands) over six periods.
The 3-point moving average centred on Apr is 18.
(a) Work out the value of x.
(b) Work out the 3-point moving average centred on May.

	Jan	Feb	Mar	Apr	May	Jun
Value	11	21	11	x	22	32

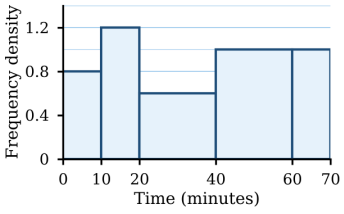
5 a = 8.8 and b = 1.3,
both correct to 1 decimal place.
Work out the lower bound of $a - b$.

Day 116 **S Tier 10-a-day**

6 PAQ is a tangent to the circle at A. B and C are points on the circle. Angle PAB = 33° and angle CAQ = 56°.
(a) Work out the size of angle ABC.
(b) Work out the size of angle ACB.
The diagram is not drawn accurately.



7 The histogram shows the times of people spent waiting at a clinic.
(a) Work out the total number of people.
(b) Estimate the number of people with a time between 5 minutes and 15 minutes.



8 Solve $\frac{2}{x-1} + \frac{6}{x+5} = \frac{1}{2}$

9 The probability that the 8:15 train is late on any day is $\frac{3}{20}$.
Events on different occasions are independent.
Work out the probability that this happens at least once in 5 days.
Give your answer correct to 3 significant figures. (Calculator)

10 $f(x) = \frac{5x-5}{3x-5}$ where $x \neq \frac{5}{3}$
(a) Show that $ff(x) = x$.
(b) Write down $f^{-1}(x)$.