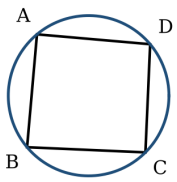
Day 285 **A Tier 10-a-day**

1 $A = 3 \times 7$
$B = 2^4 \times 3^2 \times 7^4$
Find the highest common factor (HCF) and the lowest common multiple (LCM) of A and B.
Give your answers as products of prime factors.

2 A closed block is a cuboid measuring 10 cm by 11 cm by 2 cm.
Work out the total surface area.

3 The exchange rate is £1 = PLN 5.20.
(Calculator)
Jack changes £500 into Polish zloty and spends PLN 2,080.
Jack changes the rest back into pounds at the same rate.
How much does Jack get back?

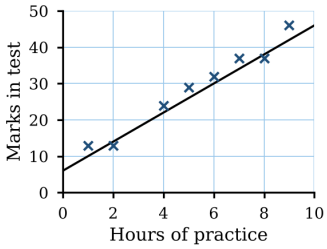
4 A, B, C and D are points on a circle.
Angle B = $(5x - 5)°$ and angle D = $(3x - 7)°$.
(a) Work out the value of x.
(b) Work out the size of angle B.
The diagram is not drawn accurately.



5 Solve $\frac{3x - 6}{2} = \frac{5x - 9}{3}$

Day 285 **A Tier 10-a-day**

6 The scatter graph shows the hours of practice and the marks in a test for some students.
A line of best fit is drawn.
(a) Describe the correlation.
(b) Estimate the marks for a student who practised for 6 hours.



7 A plank is 10 mm long and a pipe is 9 mm long.
Each length is correct to the nearest mm.
Work out the upper bound for the difference in their lengths.

8 Solve $-5(x - 1) = 5(x - 7)$

9 A bag contains 3 red counters and 6 blue counters.
Three counters are taken at random without replacement.
Work out the probability that all three counters are red.

10 Solve the simultaneous equations
$x^2 + y^2 = 289$
$y = x + 7$