Day 138 **A Tier 10-a-day**

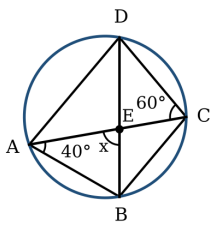
1 Factorise $x^2 - 4x - 12$

2 Here is some information about 50 people.
(a) Work out the mean.
(b) Write down the mode.

Books read	1	2	3	4	5
Frequency	13	5	8	8	16

3 A straight line has equation $4x - 2y = -4$
(a) Find the gradient of the line.
(b) Find the coordinates of the point where the line crosses the x-axis.

4 A, B, C and D are points on a circle. AC and BD meet at E.
Angle BAC = 40° and angle ACD = 60°.
Work out the size of angle x (angle AEB).
Give reasons for your working.



5 Ben is paid £11.20 per hour for a basic week of 36 hours. (Calculator)
Overtime is paid at time and a half.
Last week Ben worked 6 hours of overtime.
Work out Ben's total pay for the week.

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6 The size of each angle of a pentagon is shown as an expression:
$(3x - 5)°$, $(2x + 45)°$, $(2x + 5)°$, $(2x + 50)°$, $(x + 55)°$
Work out the value of x.

7 Work out $(3.75 \times 10^4) + (4.2 \times 10^3)$
Give your answer in standard form.

8 The graph of y = f(x) has a minimum point at (2, 6).
Write down the coordinates of the turning point of the graph of
(a) y = 2f(x)
(b) y = f(−x)

9 The table gives information about 118 measurements.
A histogram is drawn using this information.
(a) Work out the missing frequency.
(b) Work out the height of the bar for the class $55 < h \leq 70$.

Height, h (cm)	Frequency
$10 < h \leq 40$	54
$40 < h \leq 55$	42
$55 < h \leq 70$	6
$70 < h \leq 90$	?

10 A metal block has mass 300 g and volume 89 cm^3. The mass is measured to the nearest 10 grams and the volume to the nearest cm^3. (Calculator)
Work out the lower bound for the density of the metal in g/cm^3.
Give your answer correct to 3 significant figures.