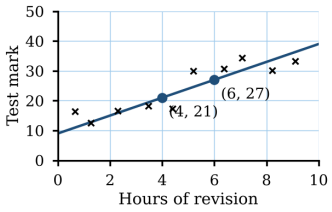
Day 43 **S Tier 10-a-day**

1 The interior angles of a pentagon are
$x°$, $(2x - 10)°$, $(x + 35)°$, $(x - 10)°$, $(2x)°$
(a) Work out the value of x.
(b) Work out the size of the largest angle.

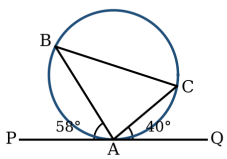
2 Expand and simplify $(5 + \sqrt{7})^2$
Give your answer in the form $p + q\sqrt{7}$

3 Solve $x^2 - 6x = -5$

4 The scatter graph shows hours of revision (x) and test mark (y).
The equation of the line of best fit is $y = 3x + 9$.
(a) Estimate y when x = 7.
(b) Explain why an estimate of y when x = 25 may be unreliable.



5 PAQ is a tangent to the circle at A. B and C are points on the circle. Angle PAB = 58° and angle CAQ = 40°.
(a) Work out the size of angle ABC.
(b) Work out the size of angle ACB.
The diagram is not drawn accurately.



Day 43 **S Tier 10-a-day**

6 (a) Write 2058 and 4116 as products of prime factors.
(b) Find the HCF and the LCM of 2058 and 4116.
Give your answers as numbers.

7 Solve the simultaneous equations
$6x + 2y = -34$
$x + 4y = -2$

8 The table gives information about the times taken by some people to travel to work.
An estimate for the mean is 20.
Work out the value of x.

Time, t (minutes)	Frequency
$10 < t \leq 15$	17
$15 < t \leq 20$	x
$20 < t \leq 25$	16
$25 < t \leq 30$	15

9 Tom puts £2,000 into a savings account.
The account pays 3% compound interest each year.
After how many whole years will there first be more than £3,000 in the account? (Calculator)

10 The histogram shows the ages of visitors to a museum.
160 of them had an age between 20 and 30 years.
(a) How many had an age between 30 and 50 years?
(b) How many visitors are there in total?

