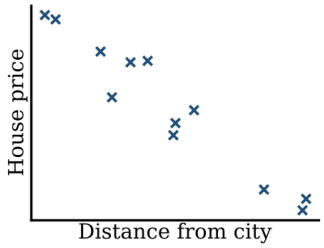
Day 68 **A Level Maths: C Tier 10-a-day**

1 The scatter diagram shows distance from city and house price for a group.
Describe the correlation.

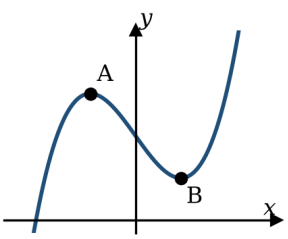


2 Simplify $\cos^2 x - 1$.

3 Sketch $y = 2(x + 2)(x - 1)(x - 5)$. Write down the coordinates of the points where the curve meets the axes.

4 X has probability density function $f(x) = \frac{1}{2}x$ for $0 \leq x \leq 2$, and 0 otherwise.
Find E(X).

5 The diagram shows the curve $y = x^3 - 3x + 4$.
A and B are turning points. Find the coordinates of A and B.



Day 68	A Level Maths: C Tier 10-a-day
6 Expand $(1 + 3x)^{-3}$ in ascending powers of x up to and including the term in x^2. State the range of values of x for which the expansion is valid.	
7 A particle moving in a straight line with constant acceleration 0.5 m s^{-2} travels 40 m in 4 s. Find its initial speed.	
8 Find the sum of the first 8 terms of the geometric series 5 + 10 + 20 + ...	
9 A particle of mass 5 kg slides from rest down a smooth plane inclined at angle α to the horizontal, where $\sin \alpha = \frac{3}{5}$. Take g = 9.8 m s^{-2}. Find (a) its acceleration, (b) its speed after 4 s.	
10 Use the product rule to differentiate $y = x^2e^{2x}$.	