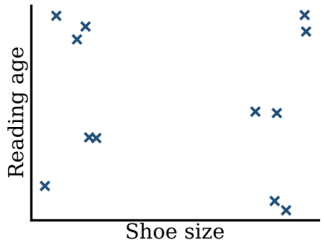
Day 339 **A Level Maths: C Tier 10-a-day**

1 The scatter diagram shows shoe size and reading age for a group.
Describe the correlation.



2 A lift of mass 600 kg is lowered by a vertical cable with constant acceleration 0.25 m s^{-2} downwards. Take g = 9.8 m s^{-2}.
Find the tension in the cable.

3 $x_{n+1} = \sqrt{5x_n + 3}$, with $x_0 = 3$.
Find x_1, x_2 and x_3 to 3 decimal places.

4 $X \sim N(130, 8^2)$ and $P(X < 114) = 0.15$.
Find $P(X > 146)$.

5 Rationalise the denominator of $\frac{5}{\sqrt{7}}$.
Give your answer in its simplest form.

Day 339	A Level Maths: C Tier 10-a-day
6 Use the product rule to differentiate $y = x^3 \sin 4x$.	
7 $f(x) = 2x^3 - 4x^2 - 2x + 4$ (a) Show that $(x + 1)$ is a factor of $f(x)$. (b) Factorise $f(x)$ completely.	
8 A cyclist moving in a straight line has initial speed 4 m s^{-1} and constant acceleration 0.5 m s^{-2}. Find her speed after 6 s.	
9 θ is small and measured in radians. Use the small angle approximations to find an approximation for $\cos\theta + \theta \sin 3\theta$.	
10 The line $y = -4x + k$ is a tangent to the curve $y = x^2 - 6x + 2$. Find the value of k.	