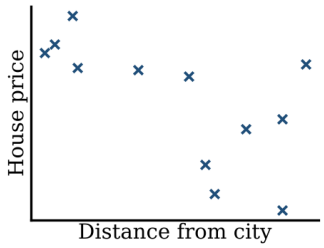
Day 71	A Level Maths: C Tier 10-a-day

1 θ is acute and $\sin\theta = \frac{24}{25}$.

Find the exact values of $\cos\theta$ and $\tan\theta$.

2 The scatter diagram shows distance from city and house price for a group.

Describe the correlation.



3 Simplify $\sqrt{4x^6} \times 5x^{-2}$.

4 A car's engine works at a constant rate of 5 kW.

Find the driving force when the vehicle is moving at 10 m s^{-1}.

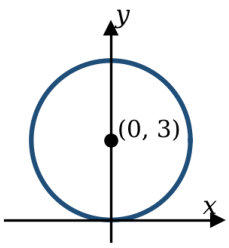
5 The curve $y = x^2 + 2x - 3$ is translated by the vector $\begin{pmatrix}3\\4\end{pmatrix}$.

Find the equation of the new curve, giving your answer in the form $y = ax^2 + bx + c$.

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6 Solve $4\cos^2 x - 1 = 0$ for $0° \leq x \leq 360°$.

7 The diagram shows a circle with the centre marked.
The circle touches the x-axis. Find the equation of the circle.



8 A block is on the point of sliding down a rough plane inclined at α to the horizontal, where $\tan \alpha = \frac{7}{24}$. Find the coefficient of friction.

9 Find $\int e^{5x+3}\, dx$.

10 $X \sim N(50, 8^2)$. Given that $P(X > a) = 0.75$, find a to 3 s.f.