### 24th May

**Solve the simultaneous equations**

\[
\frac{1}{4}y = x \\
y = x^2 + 3
\]

The Venn diagram shows information about cars in a car park.

- \(\xi\) = cars in the car park
- \(R\) = red cards
- \(N\) = cars under 4 years old

A car is chosen at random. Given it is under 4 years old, find the probability that it is Red.

### Find the first 3 terms of the sequence \(n^2 - 4n + 25\)

Prove every term in the sequence \(n^2 - 4n + 25\) is positive.

The sketch shows a curve with equation \(y = ab^x\) where \(a\) and \(b\) are constants and \(b > 0\)

The curve passes through the points \((2, 90)\) and \((4, 810)\)

Calculate the value of \(a\) and \(b\)