Name: _____ 5-a-day Higher Plus

24th May

Corbettmaths

Solve the simultaneous equations

$\frac{1}{4}y = x$

$y = x^2 + 3$

$y = 4x$

$x^2 + 3 = 4x$

$x^2 - 4x + 3 = 0$

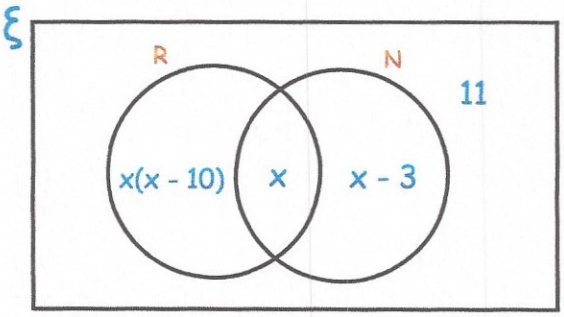
$(x-3)(x-1) = 0$

$x = 3, 1$

$y = 12, 4$

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



$\frac{x}{2x-3}$

Find the first 3 terms of the sequence $n^2 - 4n + 25$

22, 21, 22

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

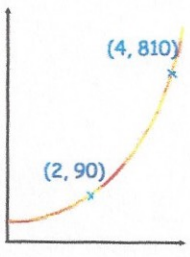
$(n-2)^2 - 4 + 25$

$(n-2)^2 + 21$ which is always 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



$810 = ab^4$

$\div$

$90 = ab^2$

$9 = b^2$

$b = 3$

$810 = 81a$

$a = 10$