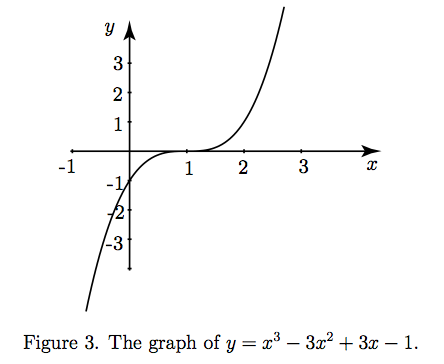
**Cubic Functions Examples:**

1) Solve the equation

x^3-3x^2+3x-1=0

This equation can be factored to (x-1)^3=0

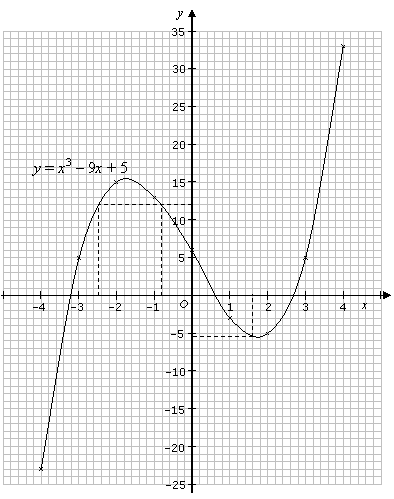
So although there are three factors, they are all the same and we only have a single solution x= 1. The corresponding curve is y=x^3-3x^2+3x-1.



2) **Example:**

Plot the graph of *y* = *x*3 – 9*x* + 5 for –4 ≤ *x* ≤ 4 and use your graph to find:   
a) the value of *y* when *x* = 1.6   
b) the value of *x* when *y* = 12

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *x* | –4 | –3 | –2 | –1 | 0 | 1 | 2 | 3 | 4 |
| *y* | –23 | 5 | 15 | 13 | 5 | –3 | –5 | 5 | 33 |



a) When x = 1.6, y http://www.onlinemathlearning.com/image-files/cubic-function2.gif–5.3

b) When y = 12, x http://www.onlinemathlearning.com/image-files/cubic-function2.gif–0.8, or x http://www.onlinemathlearning.com/image-files/cubic-function2.gif–2.5