Name: _____ 5-a-day Higher Plus

14th August

Corbettmaths

Simplify fully

$$\frac{6}{(x-5)(x-3)} + \frac{x}{x-3}$$

$$\frac{x-2}{x-5}$$

$$x_{n+1} = -3 - \frac{5}{x_n^2}$$

Starting with $x_0 = -4$

Find x_1 , x_2 and x_3

$x_0 = -4$

$x_1 = -\frac{53}{16}$

$x_2 = -3.455678177$

$x_3 = -3.418700446$

Explain the relationship between the values of x_1 , x_2 and x_3 and the equation $x^3 + 3x^2 + 5 = 0$

Increasingly accurate approximations to a solution of $x^3 + 3x^2 + 5 = 0$

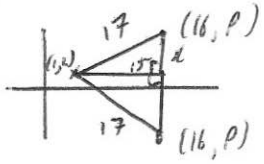
A is directly proportional to the cube root of B.
B is increased by 60%.
Work out the percentage increase in A.

$A \propto \sqrt[3]{B}$

$\sqrt[3]{1.6} = 1.1691...$

16.96%

The distance between the points (1, 2) and (16, p) is 17.
Find the possible values of p.



$15^2 + x^2 = 17^2$

$x = 8$

(16, 10) or (16, -6)

$p = -6$ or 10