10th January **Higher Plus 5-a-day**

Corbettmaths

Given

$2^y = \frac{1}{8}$

$y = -3$

Find y

Show the equation $x^2 - 4x + 1 = 0$ can be written in the form

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

$x^2 = 4x - 1$

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

Starting with $x_0 = 3$, use the iteration formula

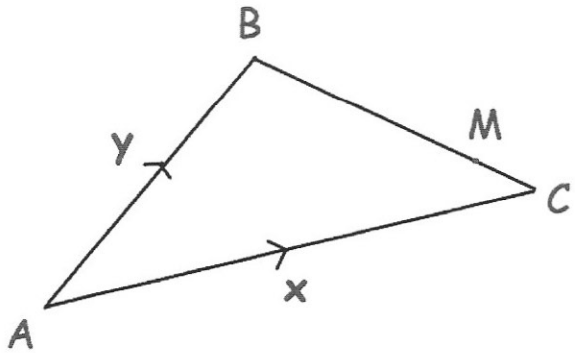
$x_{n+1} = 4 - \frac{1}{x_n}$

twice to find an estimate of the solution of $x^2 - 4x + 1 = 0$

$x_0 = 3$

$x_1 = \frac{11}{3} = 3.\dot{6}$

$x_2 = \frac{41}{11} = 3.7272..$



ABC is a triangle.

M lies on BC such that $BM = \frac{4}{5}BC$

Express these vectors in terms of **x** and **y**

Express these vectors in terms of **x** and **y**

$\overrightarrow{BC}$ $\underline{x} - \underline{y}$

$\overrightarrow{BM}$ $\frac{4}{5}\underline{x} - \frac{4}{5}\underline{y}$

$\overrightarrow{AM}$ $\frac{4}{5}\underline{x} + \frac{1}{5}\underline{y}$