# ASSIGNMENT 1

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**Problem 1(b):** Solve the equation $4x^2-5x-3=0$ and give your answer correct to 2 decimal places

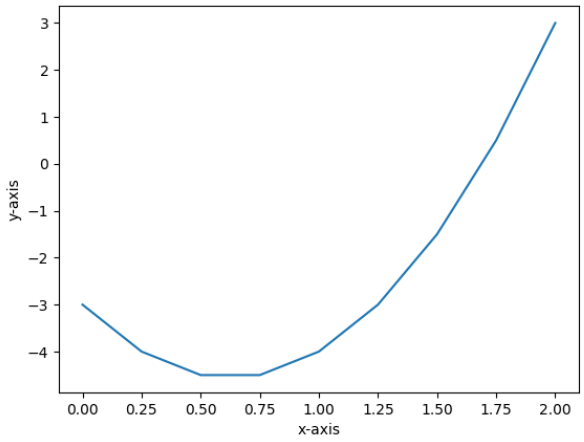
**SOLUTION:** For any kind of equation of the form $ax^2+bx+c=0$

It's roots are

$x=\frac{-b\pm\sqrt{b^2-4ac}}{2a}$

For the given equation-

$$4x^2-5x-3=0 \tag{1}$$




roots upto two decimal places are

$x1=\frac{5+\sqrt{(-5)^2-4\times4\times(-3)}}{2\times4}$

$x1=\frac{5+\sqrt{25+48}}{8}$

$x1=\frac{5+\sqrt{73}}{8}$

$x1=\frac{5+8.54}{8}$

$x1=\frac{13.54}{8}$

$x1=1.69$

and

$x2=\frac{5-\sqrt{(-5)^2-4\times4\times(-3)}}{2\times4}$

$x2=\frac{5-\sqrt{25+48}}{8}$

$x2=\frac{5-\sqrt{73}}{8}$

$x2=\frac{5-8.54}{8}$

$x2=\frac{-3.54}{8}$

$x2=-0.44$

The roots of the given equation are 1.69 and -0.44