Algebra I Fri. 5-3-13 Class Notes

(18) $6x^2 - 77 = x$

$-x \quad -x$

$6x^2 - x - 77 = 0$

$ax^2 + bx + c = 0$

GCF = ? No

$b^2 - 4ac$

$a = 6$

$b = -1$

$c = -77$

$(-1)^2 - 4(6.)(-77)$

$1 + 1848 = 1849 = d$

214
×77
1498
1680
1848

$\sqrt{1849}$

43 43

43
×43
129
172
1849

$x = \frac{-b \pm \sqrt{d}}{2a}$

$x = \frac{1 \pm \sqrt{1849}}{12}$

$x = \left\{ \frac{1+\sqrt{1849}}{12}, \frac{1-\sqrt{1849}}{12} \right\}$

$x = \left\{ \frac{1+43}{12}, \frac{1-43}{12} \right\}$

$\boxed{x = \left\{ \frac{11}{3}, -\frac{7}{2} \right\}}$

$\frac{77}{1} = \frac{231}{3}$

CK $6\left(\frac{11}{3}\right)^2 - 77 \stackrel{?}{=} \left(\frac{11}{3}\right)$

$2\cancel{6}\left(\frac{121}{\cancel{9}_3}\right) - \frac{77}{1} \stackrel{?}{=} \frac{11}{3}$

$\frac{242}{3} - \frac{231}{3} \stackrel{?}{=} \frac{11}{3}$ ✓

CK $6\left(-\frac{7}{2}\right)^2 - 77 \stackrel{?}{=} \left(-\frac{7}{2}\right)$

$3\cancel{6}\left(\frac{49}{\cancel{4}_2}\right) - \frac{77}{1} \stackrel{?}{=} -\frac{7}{2}$

$\frac{147}{2} - \frac{154}{2} \stackrel{?}{=} -\frac{7}{2}$ ✓

(7.) $4x^2 + 6x = 4$

$4x^2 + 6x - 4 = 0$ * ① QUADRATIC EQUATION

$2(2x^2 + 3x - 2) = 0$

$a = 2$

$b = 3$

$c = -2$

$b^2 - 4ac$

$(3)^2 - 4(2)(-2)$

$9 + 16 = 25 = d$

$x = \frac{-b \pm \sqrt{d}}{2a} = \frac{-3 \pm \sqrt{25}}{4}$

$x = \frac{-3 \pm 5}{4} = \left\{\frac{1}{2}, -2\right\}$

TURN INTO the QUADRATIC FUNCTION

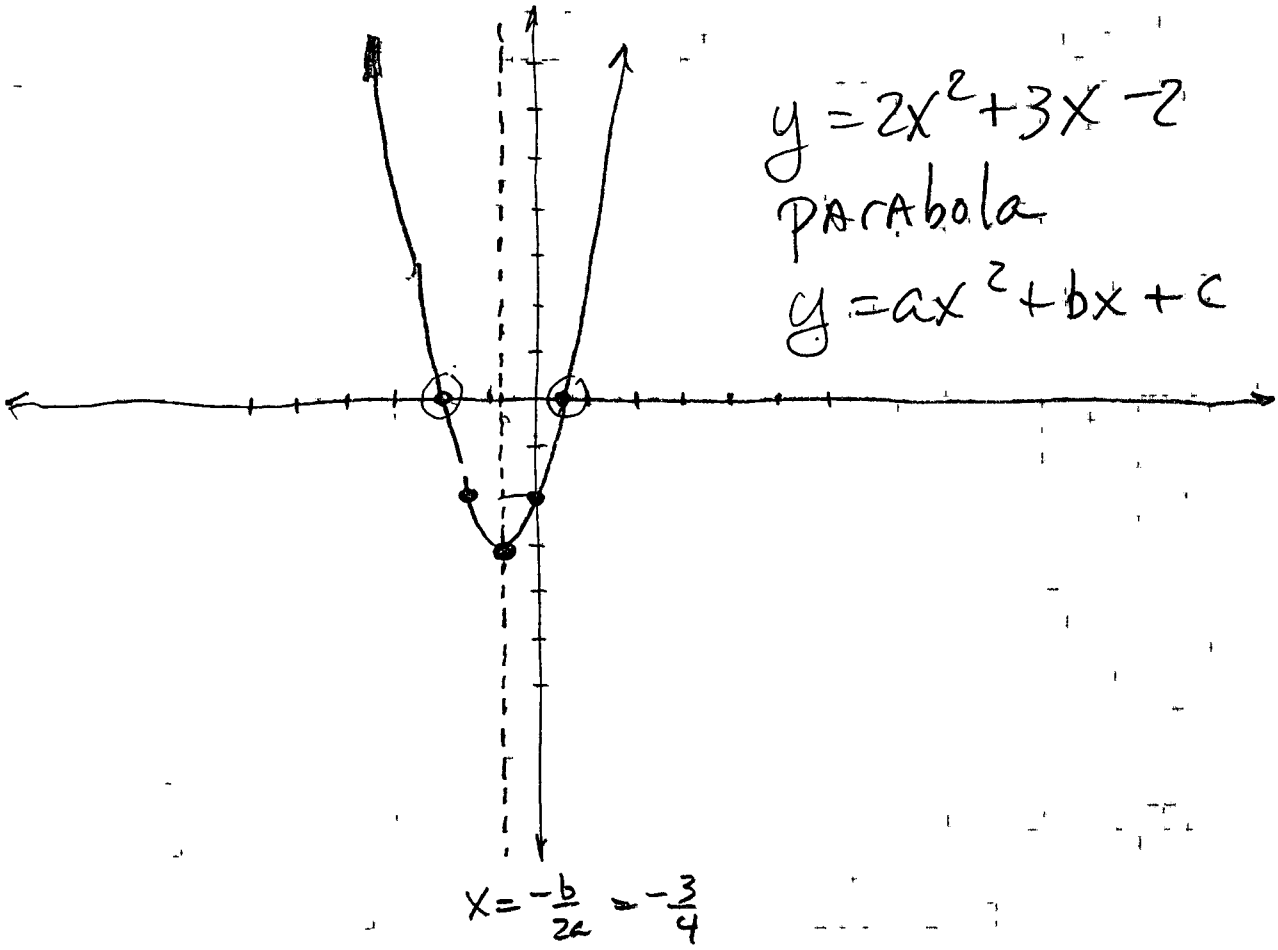
Need (X, Y)

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

$2x^2 + 3x - 2 = y$

x	y
$\frac{1}{2}$	0
-2	0
0	-4
Vertex $-\frac{b}{2a}$	$f(\frac{-b}{2a})$
$-\frac{3}{4}$	$f(-\frac{3}{4}) = 2(-\frac{3}{4})^2 + 3(-\frac{3}{4}) - 2$

$2(\frac{9}{16}) + \frac{9}{4} - \frac{8}{4} = \frac{9}{8} - \frac{18}{8} - \frac{16}{8} = -\frac{25}{8} = -3\frac{1}{8}$



$y = 2x^2 + 3x - 2$

parabola

$y = ax^2 + bx + c$

$x = \frac{-b}{2a} = -\frac{3}{4}$

Graphing the Quadratic Function (A parabola)