

$$(x, y) \quad \begin{array}{l} y = x + 5 \\ y = x^2 - 3x - 7 \end{array}$$

$$\begin{array}{r} x + 5 \\ -x - 5 \\ \hline \end{array} = x^2 - 3x - 7$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \quad x^2 - 4x - 12 = 0$$

$$= \frac{4 \pm \sqrt{(-4)^2 - 4(1)(-12)}}{2(1)}$$

$$= \frac{4 \pm \sqrt{16 + 48}}{2}$$

$$\frac{4 - 8}{2} = \frac{-4}{2} = -2 \quad \frac{4 + 8}{2} = \frac{12}{2} = 6$$

$$(x - 6)(x + 2) = 0$$

$$\begin{array}{l} x - 6 = 0 \\ +6 +6 \\ x = 6 \end{array} \quad \begin{array}{l} x + 2 = 0 \\ -2 -2 \\ x = -2 \end{array}$$

$$y = x + 5$$

$$y = -2 + 5$$

$$y = 3$$

$$y = 6 + 5$$

$$y = 11$$

$$(-2, 3), (6, 11)$$

Sub

$$y = 7x^2 - 2x$$

$$y + 2x = 28$$

$$7x^2 - \cancel{2x} + \cancel{2x} = 28$$

$$\frac{7x^2}{7} = \frac{28}{7}$$

$$\sqrt{x^2} = \sqrt{4}$$

$$x = 2, -2$$

$$(2, 24), (-2, 32)$$

$$y + 2x = 28$$

$$y + 2(2) = 28$$

$$y + 4 = 28$$

$$y = 24$$

$$y + 2(-2) = 28$$

$$y - 4 = 28$$

$$y = 32$$

$$x^2 - 2y = 4$$

$$y + 2 + x = 0 \quad \times 2 \rightarrow 2y + 4 + 2x = 0$$

$$x^2 + \cancel{4} + 2x = \cancel{4}$$

$$x^2 + 2x = 0$$

$$x(x+2) = 0$$

$$x = 0$$

$$y + 2 + x = 0$$

$$y + 2 + 0 = 0$$

$$\quad -2 \quad -2$$

$$(0, -2)$$

$$x + 2 = 0$$

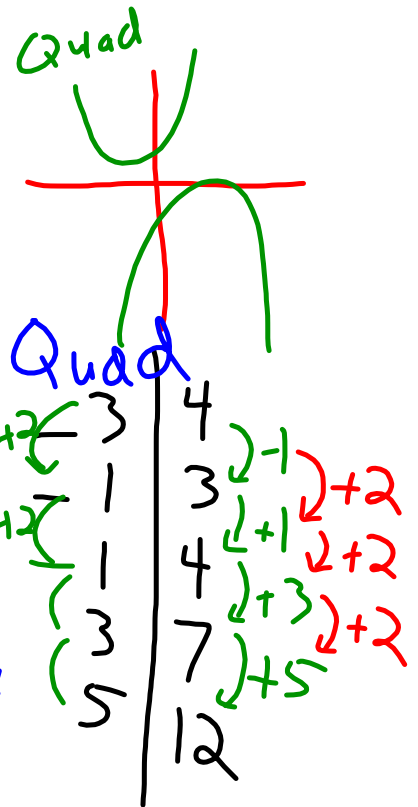
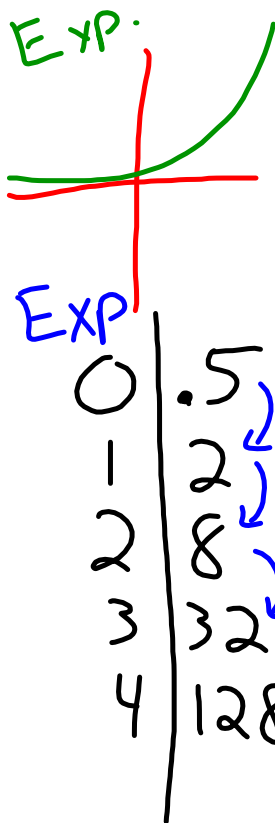
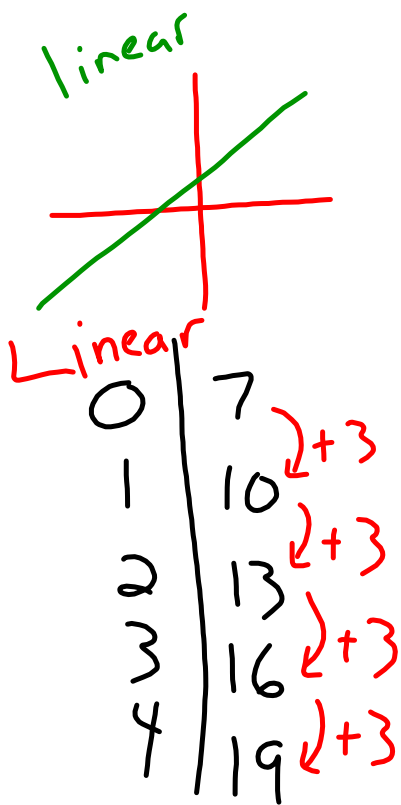
$$\quad -2 \quad -2$$

$$x = -2$$

$$y + 2 - 2 = 0$$

$$y = 0$$

$$(-2, 0)$$



Solve: $2x^2 + 4x - 1 = 0$
 $a=2$ $b=4$ $c=-1$

$$X = \frac{-4 \pm \sqrt{4^2 - 4(2)(-1)}}{2(2)}$$

$$\frac{-4 \pm \sqrt{24}}{4}$$

$$\frac{-4 + 4.9}{4}$$

$$\frac{0.9}{4}$$

$$.23$$

$$\frac{-4 - 4.9}{4}$$

$$\frac{-8.9}{4}$$

$$-2.23$$

$$X = 0.23, -2.23$$

$$4x^2 - x - 1 = 0$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \quad a=4, b=-1, c=-1$$

$$x = \frac{-(-1) \pm \sqrt{(-1)^2 + 4(4)(-1)}}{2(4)}$$

$$x = \frac{1 \pm \sqrt{1 - 16}}{8}$$

$$x = \frac{1 + 4.12}{8} \qquad \frac{1 - 4.12}{8}$$

$$\frac{5.12}{8}$$

$$x = \boxed{.64, -.39}$$

$$-3x^2 + 10x - 3 = 0$$

$$a = -3 \quad b = +10 \quad c = -3$$

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

$$x = \frac{-10 \pm \sqrt{10^2 - 4(-3)(-3)}}{2(-3)}$$

$$x = \frac{-10 \pm \sqrt{100 - 36}}{-6}$$

$$\frac{-10 \pm \sqrt{64}}{-6}$$

$$x = \frac{-10 + 8}{-6} \quad x = \frac{-2}{-6} = x = \frac{1}{3}$$

$$x = \frac{-10 - 8}{-6} = \frac{-18}{-6} = 3$$

$$x = \frac{1}{3}, 3$$

Graph: $y = 2x^2 - 8x + 3$

$$x = \frac{-b}{2a} = \frac{-(-8)}{2 \cdot 2} = 2$$

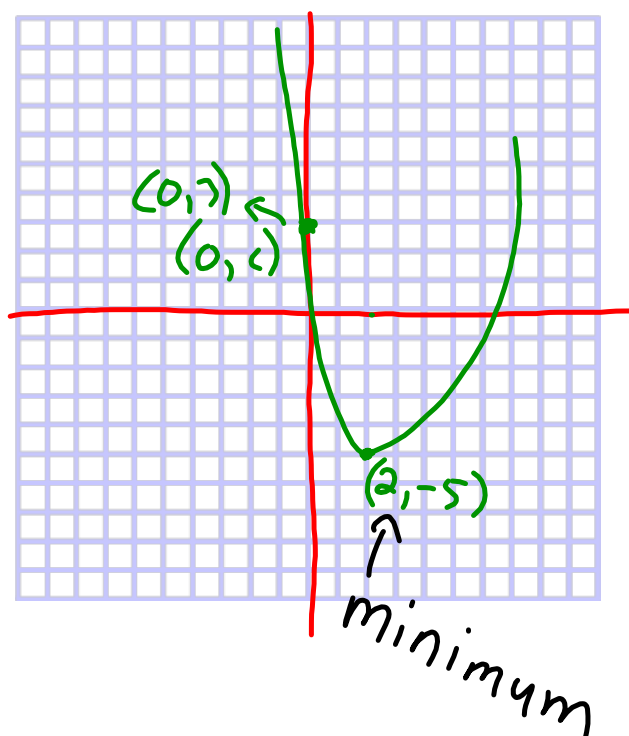
axis: $x = 2$

$$y = 2(2)^2 - 8(2) + 3$$

$$y = 8 - 16 + 3$$

$$y = -5$$

$$V: (2, -5)$$



$$\sqrt{x^2} = \sqrt{9}$$

$$x = 3, -3$$

$$5x^2 - 20 = 0$$

$$+20 \quad +20$$

$$\frac{5x^2}{5} = \frac{20}{5}$$

$$\sqrt{x^2} = \sqrt{4}$$

$$x = -2, 2$$

$$7x^2 + 700 = 0$$

$$-700 \quad -700$$

$$\frac{7x^2}{7} = \frac{-700}{7}$$

$$\sqrt{x^2} = \sqrt{-100}$$

no solution

$$(x-3)(2x+7)=0$$

$$\begin{array}{r} x-3=0 \\ +3 \quad +3 \\ \hline \end{array}$$

$$\underline{x=3}$$

$$\begin{array}{r} 2x+7=0 \\ -7 \quad -7 \\ \hline \end{array}$$

$$\frac{2x}{2} = \frac{-7}{2}$$

$$x = \frac{-7}{2}$$

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

