

9-30-19 1st Trig

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

① Solve $\frac{6x^2}{a} + \frac{10x}{b} - \frac{4}{c} = 0$

$a = 6$

$b = 10$

$c = -4$

$4ac = -96$

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

$$X = \frac{-10 \pm \sqrt{10^2 - -96}}{2 \cdot 6}$$

$$X = \frac{-10 \pm \sqrt{100 + 96}}{12}$$

$$X = \frac{-10 \pm 14}{12}$$



$$X = \frac{-10 + 14}{12}$$

OR

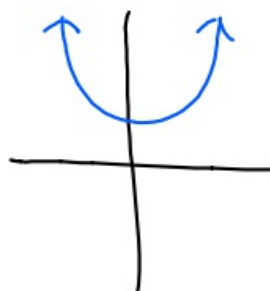
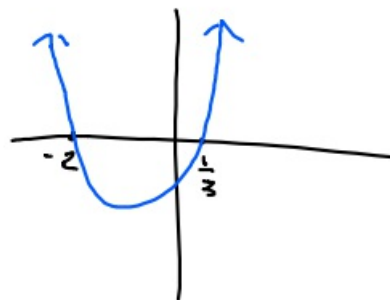
$$X = \frac{-10 - 14}{12}$$

$$X = \frac{4}{12}$$

$$X = \frac{-24}{12}$$

$$X = \frac{1}{3} \left(\frac{1}{3} \right) \text{ OR}$$

$$X = -2$$



② Solve $x^2 + 2x + 10 = 0$

$a = 1$

$b = 2$

$c = 10$

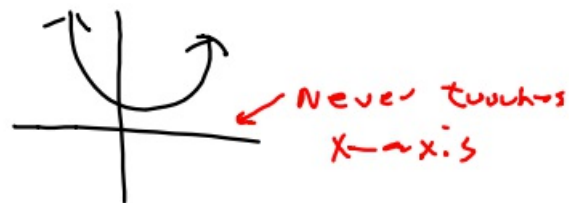
$4ac = 40$

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

$$x = \frac{-2 \pm \sqrt{2^2 - 40}}{2 \cdot 1}$$

$$x = \frac{-2 \pm \sqrt{-36}}{2} \text{ Error}$$

No solutions



③ Solve $2x^2 - 4x - 5 = 0$

$a = 2$

$b = -4$

$c = -5$

$4ac = -40$

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

$$x = \frac{4 \pm \sqrt{(-4)^2 - (-40)}}{2 \cdot 2}$$

$$x = \frac{4 \pm \sqrt{16 + 40}}{4}$$

$$x = \frac{4 \pm \sqrt{56}}{4}$$

$$\begin{array}{l} \swarrow + \qquad \searrow - \\ x = \frac{4 + \sqrt{56}}{4} \qquad x = \frac{4 - \sqrt{56}}{4} \\ x \approx 2.87 \qquad x \approx -.87 \end{array}$$

④

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

$$a = 1$$

$$b = -1$$

$$c = -1$$

$$4ac = -4$$

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

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

$$x = \frac{1 \pm \sqrt{1+4}}{2}$$

$$x = \frac{1 \pm \sqrt{5}}{2}$$

+

$$x = \frac{1 + \sqrt{5}}{2}$$

$$x \approx 1.62$$

-

$$x = \frac{1 - \sqrt{5}}{2}$$

$$x \approx -.62$$

9-30-19 3rd Trig

Quadratic Equation

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

① Solve $2x^2 + 2x - 12 = 0$

$a = 2$

$b = 2$

$c = -12$

$4ac = -96$

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

$$x = \frac{-2 \pm \sqrt{2^2 - (-96)}}{2 \cdot 2}$$

$$x = \frac{-2 \pm 10}{4}$$

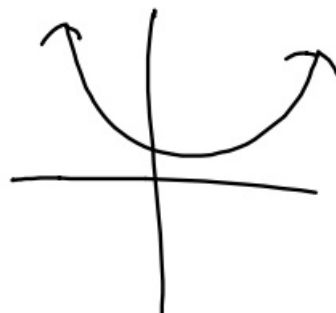
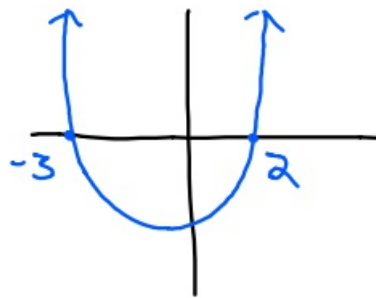
$x = \frac{-2 + 10}{4}$

$x = 2$

OR

$x = \frac{-2 - 10}{4}$

$x = -3$



② Solve $3x^2 + 2x + 5 = 0$

$a = 3$

$b = 2$

$c = 5$

$4ac = 60$

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

$$x = \frac{-2 \pm \sqrt{2^2 - 60}}{2 \cdot 3}$$

$$x = \frac{-2 \pm \sqrt{-56}}{6}$$



No solutions

③

$x^2 + 4x + 4 = 0$

$a = 1$

$b = 4$

$c = 4$

$4ac = 16$

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

$$x = \frac{-4 \pm \sqrt{4^2 - 16}}{2 \cdot 1}$$

$$x = \frac{-4 \pm \sqrt{0}}{2}$$

$$x = \frac{-4 \pm 0}{2}$$

$\swarrow +$

$$x = \frac{-4 + 0}{2}$$

$$x = -2$$

OR

$\searrow -$

$$x = \frac{-4 - 0}{2}$$

$$x = -2$$

$$x = -2$$

④

$$-2x^2 - 5x + 6 = 0$$

$$a = -2$$

$$b = -5$$

$$c = 6$$

$$4ac = -48$$

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

$$x = \frac{-(-5) \pm \sqrt{(-5)^2 - (-48)}}{2 \cdot -2}$$

$$x = \frac{5 \pm \sqrt{25 + 48}}{-4}$$

$$x = \frac{5 \pm \sqrt{73}}{-4}$$

+

$$x = \frac{5 + \sqrt{73}}{-4}$$

$$x = -3.39$$

OR

-

$$x = \frac{5 - \sqrt{73}}{-4}$$

$$x \approx .89$$

9-30-19 4th Trig

Quadratic Equation

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

① Solve $2x^2 + 2x - 4 = 0$

$$a = 2$$

$$b = 2$$

$$c = -4$$

$$4ac = -32$$

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

$$x = \frac{-2 \pm \sqrt{2^2 - (-32)}}{2 \cdot 2}$$

$$x = \frac{-2 \pm \sqrt{4 + 32}}{4}$$

$$x = \frac{-2 \pm 6}{4}$$

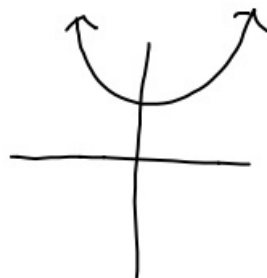
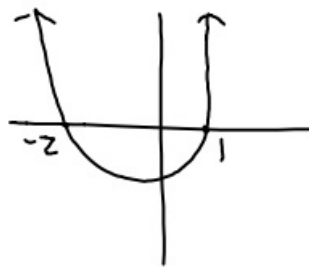
$$x = \frac{-2 + 6}{4}$$

$$x = 1$$

OR

$$x = \frac{-2 - 6}{4}$$

$$x = -2$$



$$\textcircled{2} \quad x^2 + 3x + 10 = 0$$

$$a = 1$$

$$b = 3$$

$$c = 10$$

$$4ac = 40$$

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

$$x = \frac{-3 \pm \sqrt{3^2 - 40}}{2 \cdot 1}$$

$$x = \frac{-3 \pm \sqrt{-31}}{2}$$



No solution

$$\textcircled{3} \quad x^2 + 4x + 4 = 0$$

$$a = 1$$

$$b = 4$$

$$c = 4$$

$$4ac = 16$$

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

$$x = \frac{-4 \pm \sqrt{4^2 - 16}}{2 \cdot 1}$$

$$x = \frac{-4 \pm 0}{2}$$

$$x = \frac{-4+0}{2}$$

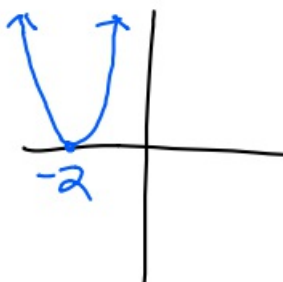
$$x = -2$$

OR

$$x = \frac{-4-0}{2}$$

$$x = -2$$

$$x = -2$$



$$\textcircled{4} \quad 3x^2 + 2x - 5$$

$$a = 3$$

$$b = 2$$

$$c = -5$$

$$4ac = -60$$

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

$$x = \frac{-2 \pm \sqrt{2^2 - -60}}{2 \cdot 3}$$

$$x = \frac{-2 \pm 8}{6}$$

+

$$x = \frac{-2 + 8}{6}$$

$$x = 1$$

OR

-

$$x = \frac{-2 - 8}{6}$$

$$x = -\frac{10}{6}$$

$$(-1.\bar{6})$$