Feb. 26, 2018

Sect. 5-7

Solving Quad. Eqns. by Factoring

Set = 0

Factor

Solve

$$(x-1)(x+2)=0$$

$x-1=0$ $\qquad$ $x+2=0$

$x=1$ $\qquad$ $x=-2$

$$\{-2,1\}$$

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

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

$x+2=0$ $\qquad$ $x-3=0$

$x=-2$ $\qquad$ $x=3$

-6	
1	-6
-1	6
2	-3
-2	3

Solve: $x^2 - 25 = 0$

$(x)^2 - (5)^2 = 0$

$(x+5)(x-5) = 0$

$x+5=0$ $\quad$ $x-5=0$

$x=-5$ $\quad$ $x=5$

$$3x^2 + x = 2$$

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

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

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

$$\left(x - \tfrac{2}{3}\right)\left(x + \tfrac{3}{3}\right) = 0$$

$$(3x-2)(x+1) = 0$$

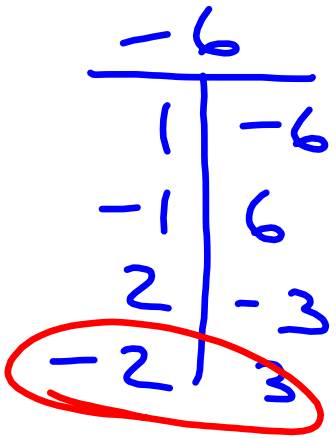
$3x - 2 = 0$

$3x = 2$

$x = \frac{2}{3}$

$x + 1 = 0$

$x = -1$



$$2x^2 - 8x - 24 = 0$$

$$2[x^2 - 4x - 12] = 0$$

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

$x + 2 = 0$ $\qquad$ $x - 6 = 0$

$x = -2$ $\qquad$ $x = 6$

-12

1	-12
-1	12
2	-6
-2	6
3	-4
-3	4

$$x^3+3x^2=2x+6$$

$$(x^3+3x^2)-(2x+6)=0$$

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

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

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

$$x^2=2 \qquad x=-3$$

$$x=\pm\sqrt{2}$$