

$$4x^2 + 26x - 48$$

$2(2x^2 + 13x - 24)$   
 $2((2x^2 + 16x) - 3x - 24)$   
 $2(2x(x+8) - 3(x+8))$   
 $2(2x-3)(x+8)$

		$-48x^2$
	$-1$	$48$
	$-2$	$24$
	$-3$	$16$
	$-4$	$12$
	$-6$	$8$

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$$2x^2 + 9x + 10$$

$10 \cdot 2 = 20$     $5 \cdot 4$     $2x^2$     $10$   
 $(2x^2 + 5x) + (4x + 10)$   
 $x(2x+5) + 2(2x+5)$   
 $(x+2)(2x+5)$

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$$-4c^2 + 19c - 21$$

$$\begin{aligned}
 & -1(4c^2 - 19c + 21) \\
 & \quad (4c^2 - 7c - 12c + 21) \\
 & \quad \underline{c(4c-7) - 3(4c-7)} \\
 & \quad -1(c-3)(4c-7)
 \end{aligned}$$

$$\begin{aligned}
 & 84c^2 \\
 & \quad \wedge \\
 & -7c \quad -12c
 \end{aligned}$$

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$$(6y^2 - 4y) + (3y - 2)$$

$$\underline{2y}(3y-2) + \underline{1}(3y-2)$$

$$\underline{(2y+1)} \underline{(3y-2)}$$

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$$\sqrt{x^2} - \sqrt{16}$$

$$x^2 + 0x - 16$$

	16
1	16
2	8
4	4

b

$$(x+4)(x-4)$$

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$$x^2 - 8$$

$$x^2 - 64$$

$$(x \pm 8)$$

$$x^3 - 49x$$

$$x(x^2 - 49)$$

$$x(x+7)(x-7)$$

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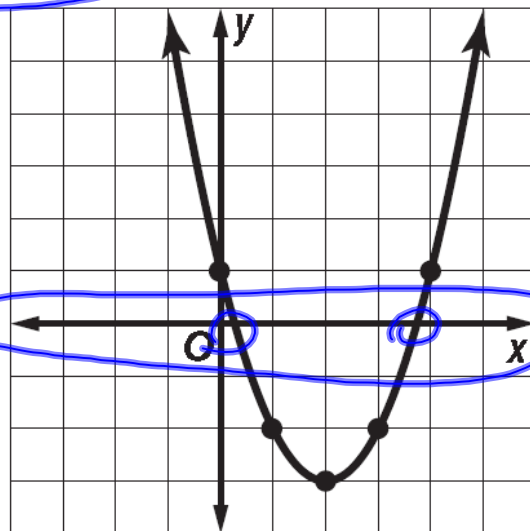
We can now solve the quadratic equations from their factored form. The solution to a quadratic equation is where  $y$  is equal to 0. This is true on a graph or in an equation. Remember the zero product rule as you work the equation.

$$x * 0 = 0$$

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$$y = x^2 - 4x + 1.$$

x	y
-1	6
0	1
1	-2
2	-3
3	-2
4	1



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$$x^2 + 6x = 7$$

$$\begin{array}{l} -7 \\ \wedge \\ -1 \quad 7 \end{array} \quad x^2 + 6x - 7 = 0$$

$$(x-1)(x+7) = 0$$

$$x-1=0 \qquad x+7=0$$

$$x=1 \qquad x=-7$$

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$$x^2 + 6x + 9$$

$$(x+3)(x+3)$$

$$\left( \begin{array}{c} x+3 \\ a \quad b \end{array} \right)^2$$

$$a^2 + 2ab + b^2 \quad x^2 + 6x + 9$$

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$$3n^2 - 2n - 5 = 0$$

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$$16n^2 + 16n + 4 = 0$$

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$$x^2 + x + \frac{1}{4} = 0$$

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$$5.) \quad 28z^2 - 65z + 28$$

$$(28z^2 - 16z)(-49z + 28)$$

$$4z(7z - 4) - 7(7z - 4)$$

$$(4z - 7)(7z - 4)$$

$$\begin{array}{r} 784 \\ \wedge \\ -16z \quad -49z \end{array}$$

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