

12.3.15

1. Solve the following quadratic equation using the Quadratic Formula below. (Hint: substitute a, b and c.)

2. Check your work by Factoring.

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

$$2x^2 = x + 15$$

$$2x^2 - x - 15 = 0$$

$$a = 2 \quad b = -1 \quad c = -15$$

$$x = \frac{-1 \pm \sqrt{(-1)^2 - 4(2)(-15)}}{2(2)}$$

$$x = \frac{-1 \pm \sqrt{1 + 120}}{4}$$

$$x = \frac{-1 \pm \sqrt{121}}{4}$$

$$x = \frac{-1 + 11}{4} \quad x = \frac{-1 - 11}{4}$$

$$x = 3 \quad x = -\frac{5}{2}$$

$$\begin{array}{r} a \cdot c \\ -30 \\ -6 \quad 5 \\ + \\ -1 \end{array}$$

| | | |
|------|--------|-------|
| | x | -3 |
| $2x$ | $2x^2$ | $-6x$ |
| 5 | $5x$ | -15 |

$$(2x+5)(x-3) = 0$$

$$x = -\frac{5}{2} \quad x = 3 \quad \checkmark$$