[***http://www.math.com/students/calculators/source/quadratic.htm***](http://www.math.com/students/calculators/source/quadratic.htm)

**Quadratic Equation STANDARD FORM: Ax2 + Bx + C = 0**

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| ***By Factoring: 5m2 - 25m – 70***  ***(5m + 10) (m – 7) = 0 (5m + 10) = 0 or (m – 7) = 0******(5m + 10) = 0 5m = -10 m = -*** $\frac{10}{5}= -2$***(m – 7) = 0*** $∴ m$ ***= 7*** |  ***Factor out a “5”******5(m2 – 5m – 14)******5(m – 7)(m + 2)***$∴ m$ ***= 7 or m = -2*** |
| ***Calculator Formula:****(-(b)+(b^2-4\*a\*c)^.5)/(2\*a)* | $$x=\frac{-(-25)\pm \sqrt{(25)^{2}-4(5)(-70)}}{2(5)}$$$$\frac{25\pm \sqrt{\left(625\right)-(-1,400)}}{10}$$$$\frac{25\pm \sqrt{2,025)}}{10} = \frac{25\pm 45}{10}$$$$\frac{70}{10}=7 and \frac{-20}{10}= -2$$$$x=\frac{-(-5)\pm \sqrt{(-5)^{2}-4(1)(-14)}}{2(1)}$$ |
| ***a2 – 8a = -16 so, a2 – 8a + 16 = 0******(a - 4) (a – 4) = 0*** $∴a= 4$$$x=\frac{-(-8)\pm \sqrt{(-8)^{2}-4(1)(16)}}{2(1)}$$$$\frac{8\pm \sqrt{64-64}}{2(1)} = \frac{8}{2}=4$$ | ***a2 + 5a = -6 so, a2 + 5a + 6 = 0******(a + 3) (a + 2)*** $∴a= -3 or a=-2$$$x=\frac{-(5)\pm \sqrt{(5)^{2}-4(1)(6)}}{2(1)}$$$=\frac{-5\pm \sqrt{25-24)}}{2(1)} $*=* $\frac{-5\pm \sqrt{1}}{2(1)}$*=* $\frac{-5 \pm 1}{2}$ |

***Try This: Put back into Standard Form and prove using the Quadratic Equation***

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| 1. *1) (b – 3) (b + 4) = 0*
 | *2)(c – 7) (c – 3) = 0* | *3)(4k + 1) (3k – 9) = 0* |

***Try This: Solve using the Quadratic Equation***

|  |  |  |
| --- | --- | --- |
| *4)a2 – a – 6 = 0* | *5)m2 – m = 56* | ***6)*** *b2 – 3b = 28* |

***Try This: Find the roots: and also prove with the Quadratic Equation***

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| ***7)****a2 + 6a + 9* | ***8)****a2 + 4a* | ***9)****25a2 – 16* |