<https://www.mathsisfun.com/quadratic-equation-solver.html>

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

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| ***By Factoring: 5m2 - 25m – 70*** ***(5m + 10) (m – 7) = 0*** ***So: (5m + 10) = 0***  ***or (m – 7). = 0******(5m + 10) = 0 5m = -10 m = -*** $\frac{10}{5}=-2$***(m – 7) = 0*** $∴ m$ ***= 7*** |  ***5m2 - 25m – 70*** ***Factor out a “5”******5(m2 – 5m – 14)******5(m – 7) (m + 2)***$∴ m$ ***= 7 or m = -2******a = 1 b = (-5) c = (-14)*** |
|  ***a = (5) b= (-25) c = (-70)******Calculator Formula:****(-(b)+(b^2-4\*a\*c)^.5)/(2\*a)* | $$x=\frac{-(-25)\pm \sqrt{(25)^{2}-4(5)(-70)}}{2(5)}$$$$\frac{25\pm \sqrt{\left(625\right)-(-1400)}}{10}$$$$\frac{25\pm \sqrt{2,025}}{10} = \frac{25\pm 45}{10}$$$$\frac{70}{10}=7 and \frac{-20}{10}= -2$$***Simplified: (factor out a ‘5’***$$x=\frac{-(-5)\pm \sqrt{(5)^{2}-4(1)(-14)}}{2(1)}$$$=\frac{5 \pm \sqrt{25 + 56)}}{2}$*=* $\frac{5 \pm \sqrt{81)}}{2}$ *=* $\frac{5 \pm 9}{2}$*=* $\frac{14}{2} and \frac{-4}{2}$ |
| ***a2 – 8a = -16 🡪 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 🡪 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}$$\frac{-6}{2}$ *and* $\frac{-4 }{2}$ *= (-3 and -2)* |