

WAY COOL ALGEBRA

Quadratics with $\sqrt{\text{Radical}}$ Answers

Completing the Square and Undoing

Write a Section Title for each Problem Set below.

Simplify (1 - 8).

1) $6 + \sqrt{49}$	2) $10 \pm \sqrt{64}$	3) $\frac{5 \pm \sqrt{9}}{2}$
4) $\frac{-8 \pm \sqrt{144}}{5}$	5) $\frac{13 \pm \sqrt{25}}{4}$	6) $\frac{12 \pm \sqrt{18}}{15}$
7) $\frac{-8 \pm \sqrt{24}}{2}$	8) $\frac{24 \pm \sqrt{32}}{20}$	

Solve each Quadratic by the Undoing Process using Square Roots (1 - 8). Check answers.

1) $\frac{2x^2 - 68}{5} = 12$	2) $\frac{2}{3}x^2 - 27 = -15$	3) $-3(x - 8)^2 + 122 = -121$
4) $97 - 4(x + 5)^2 = -119$	5) $108 = -13 + (-2c + 13)^2$	6) $109 = 37 + 3(k + 24)^2$
7) $-(-15 + 3a)^2 - 11 = -20$	8) $122 = 6(9 + 6v)^2 + 14$	

Solve each Quadratic by Completing the Square (1 - 12) .

These problems already have Perfect Square Trinomials.

1) $a^2 + 2a + 1 = 121$	2) $16y^2 + 24y + 9 = 121$	3) $36v^2 - 12v + 1 = 49$
4) $9w^2 + 24w + 16 = 36$	5) $25g^2 - 20g + 4 = 75$	6) $4a^2 + 8a + 4 = 60$

Make each problem into a Perfect Square Trinomial, Factor, and then use Square Roots.

7) $m^2 - 14m = -13$	8) $k^2 - 4k = 45$	9) $n^2 - 6n = 59$
10) $c^2 + 30c = -50$	11) $w^2 + 6w + 7 = 14$	12) $g^2 - 26g + 162 = -6$