

Alg 1B  
10.4 and 10.6 Practice

$$x = \frac{-b \pm \sqrt{(b)^2 - 4(a)(c)}}{(2 \cdot a)}$$

Name \_\_\_\_\_

Determine whether each equation would be best solved by using square roots or the quadratic formula. You do not need to solve each!

1. $5x^2 = -4x + 2$ Quadratic formula	2. $5x^2 - 20 = 0$ √	3. $9x^2 = -4x$ Quad. formula or factoring	4. $3(x-3)^2 + 2 = 6$ √
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Solve each quadratic equation using square roots. Circle your final answers. Round answers to the nearest hundredth, as needed.

5. $x^2 + 12 = 87$ $\sqrt{x^2} = \sqrt{75}$ $x = \pm 8.66$	6. $\frac{1}{3}(x+2)^2 = 7$ $\sqrt{(x+2)^2} = \sqrt{21}$ $x+2 = \pm 4.58$ $x = -2 \pm 4.58$ $x = -2 + 4.85$ $x = -2 - 4.68$ $x = 2.85$ $x = -6.68$
7. $5(x-8)^2 - 12 = 3$ $\frac{5(x-8)^2}{5} = \frac{15}{5}$ $\sqrt{(x-8)^2} = \sqrt{3}$ $x-8 = \pm 1.73$ $x = 8 \pm 1.73$ $x = 8 + 1.73$ $x = 8 - 1.73$ $x = 9.73$ $x = 6.27$	8. $8k^2 + 82 = -10$ $\frac{8k^2}{8} = \frac{-92}{8}$ $k^2 = \frac{-92}{8}$ No Solution

Solve each using the quadratic formula:

9. $-5x^2 + x = -13$ $-5x^2 + x + 13 = 0$ $x = \frac{-1 \pm \sqrt{(1)^2 - 4(-5)(13)}}{2(-5)}$ $x = \frac{-1 \pm \sqrt{261}}{-10}$ $x = \frac{-1 \pm 16.16}{-10}$ $x = \frac{-1 + 16.16}{-10}$ $x = \frac{-1 - 16.16}{-10}$ $x = -1.52$ $x = 1.72$	10. $-12 = x^2 - 14x + 30$ $0 = x^2 - 14x + 42$ $x = \frac{14 \pm \sqrt{(-14)^2 - 4(1)(42)}}{2(1)}$ $x = \frac{14 \pm \sqrt{28}}{2}$ $x = \frac{14 \pm 5.29}{2}$ $x = \frac{14 + 5.29}{2}$ $x = \frac{14 - 5.29}{2}$ $x = 9.64$ $x = 4.35$
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