



Name: _____ Period: _____

SM2 6.2 Solving Quadratic Equations by Taking Square Roots

1. Explain why you must use the “±” sign when solving an equation by taking square roots.

Find all solutions (real and imaginary) to each equation by taking square roots. Write all answers in simplest radical form and write complex answers in the form $a + bi$.

2. $a^2 = 4$

3. $b^2 = 24$

4. $c^2 = -49$

5. $4d^2 = 36$

6. $h^2 + 7 = -4$

7. $5k^2 - 3 = -18$

8. $(m + 4)^2 = 100$

9. $(n - 2)^2 = 45$

10. $2(p + 3)^2 = 8$

11. $-3(q - 9)^2 = 27$

12. $9(r + 2)^2 = 180$

13. $6(t - 4)^2 = -72$

$$14. (u+5)^2 - 2 = 7$$

$$15. 2(v-2)^2 + 4 = 100$$

$$16. 3(w-1)^2 - 6 = -33$$

$$17. 2(x-4)^2 = 0$$

$$18. 5(x-8)^2 = 0$$

$$19. (x-2)^2 = -49$$

$$20. 0 = 3x^2 - 54$$

$$21. -25 = \frac{1}{4}x^2$$

$$22. -(x+5)^2 + 16 = 0$$

$$23. 0 = -2(x+3)^2 - 8$$

$$24. 0 = \frac{1}{2}(x-3)^2 - 18$$

$$25. -15 = \frac{1}{3}(x-7)^2$$