



Name _____ Date _____ Period _____

SOLVE BY THE SQUARE ROOT METHOD WORKSHEET

Example: Solve using the SQUARE ROOT PRINCIPAL.

$$(x + 3)^2 = 5$$

Use the square root principal.

$$\sqrt{(x + 3)^2} = \pm\sqrt{5}$$

Simplify.

$$x + 3 = \pm\sqrt{5}$$

Solve for x by subtracting 3.

$$\boxed{x = -3 \pm \sqrt{5}}$$

Solve using the square root method. Simplify all radicals.

1. $x^2 = 5$

2. $w^2 + 9 = 0$

3. $z^2 = 18$

4. $x^2 + 4 = 0$

5. $(x - 3)^2 = 17$

6. $(z - 4)^2 = 5$

7. $(y + 1)^2 = -4$

8. $(2x + 1)^2 = 3$

9. $p^2 - 5 = 27$

10. $9n^2 + 10 = 91$

11. $8n^2 - 6 = 306$

12. $5n^2 - 7 = 488$

13. $x^2 - 6x + 9 = 32$

14. $x^2 + 10x + 25 = 49$

15. The equation $h = 0.019s^2$ gives the height h (in feet) of the largest ocean waves when the wind speed is s knots. How fast is the wind blowing if the largest waves are 12 feet high?

16. The area A in square feet of a projected picture on a movie screen is given by $A = 0.16d^2$, where d is the distance from the projector to the screen in feet. At what distance will the projected picture have an area of 100 square feet?