| Name: | Date: |
|---|---|
| Topic: | Class: |

| Main Ideas/Questions | Notes/Examples |
|---|---|

# SOLVING QUADRATICS
## by Square Roots

Quadratic equations of the form _____

(no "bx" term!) can be solved using **square roots.**

| Steps | | Example |
|---|---|---|
| ❶ | Isolate $x^2$. | $x^2 - 49 = 0$ |
| ❷ | Take the **SQUARE ROOT** of both sides. | |

**REMEMBER THAT A POSITIVE NUMBER ALWAYS HAS TWO SQUARE ROOTS!**

# YOU TRY!

**Directions:** Solve the following quadratic equations by square roots.

| | |
|---|---|
| **1.** $x^2 - 16 = 0$ | **2.** $x^2 - 100 = 0$ |
| **3.** $x^2 + 25 = 0$ | **4.** $x^2 + 7 = 88$ |
| **5.** $x^2 - 5 = -4$ | **6.** $6x^2 = 54$ |
| **7.** $-2x^2 = -98$ | **8.** $\frac{3}{4}x^2 = 48$ |
| **9.** $3x^2 - 108 = 0$ | **10.** $5x^2 - 45 = 0$ |

| | | |
|---|---|---|
| | **11.** $7x^2 + 66 = 3$ | **12.** $\frac{1}{2}x^2 + 3 = 75$ |
| | **13.** $9x^2 - 16 = 0$ | **14.** $25x^2 + 10 = 46$ |
| | **15.** $5x^2 - 1 = x^2$ | **16.** $16x^2 - 34 = 15$ |
| **IRRATIONAL SOLUTIONS** | **Zeros can be irrational! Solve the following quadratic equations. Write all answers in simplest radical form.** | |
| | **17.** $x^2 - 3 = 0$ | **18.** $x^2 - 8 = 0$ |
| | **19.** $x^2 + 8 = 56$ | **20.** $x^2 - 16 = 59$ |
| | **21.** $2x^2 - 126 = 0$ | **22.** $8 - 3x^2 = -22$ |
| | **23.** $-x^2 - 10 = 18$ | **24.** $\frac{1}{2}x^2 - 11 = 25$ |