

# Algebra I

12-1

(Day 1)

## Quadratic Equations with Perfect Squares

Worksheet 12-1

Solve.

1)  $x^2 = 49$

$$\sqrt{x^2} = \sqrt{49}$$

$$|x| = 7$$

$$x = \pm 7$$

$$\{\pm 7\}$$

If you start with a second power, we need absolute value.

compare

$$\sqrt{x} = 7^2$$

$$x = 49$$

$$\{49\}$$

If you start with a radical, you do Not use absolute value.

11)  $0 = 6x^2 - 24$

$$0 + 24 = 6x^2 - 24 + 24$$

$$\frac{24}{6} = \frac{6x^2}{6}$$

$$\sqrt{4} = \sqrt{x^2}$$

$$2 = |x|$$

$$\{\pm 2\}$$

13)  $(x-3)^2 = 0$

$$|x-3| = 0$$

$$x-3 = \pm 0$$

$$x-3+3 = 3 \pm 0$$

$$x = 3+0 \text{ or } 3-0$$

$$\{3\}$$

29)  $5(m-3)^2 = 80$

$$\sqrt{(m-3)^2} = \sqrt{16}$$

$$|m-3| = 4$$

$$m-3 = \pm 4$$

$$m-3+3 = 3 \pm 4$$

$$m = 3+4 \text{ or } 3-4$$

$$\{7, -1\}$$

31)  $3(x-1)^2 = -24$

$$\sqrt{(x-1)^2} = \sqrt{-8}$$

$$|x-1| = \downarrow \text{can't do}$$

$\emptyset$

WS 12-1

1-39 all