

EXAMPLES: SQUARE ROOT PROPERTY

Instructions: Solve using the square root property

Example 01

$$x^2 = 16$$

Solution:

$$x^2 = 16$$

$$x = \pm\sqrt{16}$$

$$x = \pm\sqrt{(4)(4)}$$

$$x = \pm 4$$

Example 02

$$(x-1)^2 = 81$$

Solution:

$$(x-1)^2 = 81$$

$$x-1 = \pm\sqrt{81}$$

$$x-1 = \pm\sqrt{(9)(9)}$$

$$x-1 = \pm 9$$

$$x = 1 \pm 9$$

then

$$x = 1 + 9 \quad x = 1 - 9$$

$$x = 10 \quad x = -8$$

Note: When we get it to the point of 1 ± 9 , this means $1 + 9$ and $1 - 9$ so we can split it into two different parts at that point.

Example 03

$$4(x+2)^2 = 24$$

Solution:

$$4(x+2)^2 = 24$$

$$\frac{4(x+2)^2}{4} = \frac{24}{4}$$

$$(x+2)^2 = 6$$

$$x+2 = \pm\sqrt{6}$$

$$x = -2 \pm \sqrt{6}$$

Example 04

$$9x^2 = 25$$

Solution:

$$9x^2 = 25$$

$$\frac{9x^2}{9} = \frac{25}{9}$$

$$x^2 = \frac{25}{9}$$

$$x = \pm\sqrt{\frac{25}{9}}$$

$$x = \pm\sqrt{\frac{5}{3} \cdot \frac{5}{3}}$$

$$x = \pm\frac{5}{3}$$