Name: KEY

12.3- Solving Radical Equations

Solve each radical equation.

1) $\sqrt{x}-16=0$

256

2) $\sqrt{4x+1}+5=10$

$4x+1=25$

$x=6$

3) $x=\sqrt{-4x-4}$

$x^2=-4x-4$

$x^2+4x+4=0$

$(x+2)^2=0$

-2

Extraneous

no sol!

RADICAL REVIEW[from chapter 9]!!! Simplify each radical expression.

4) $\sqrt{48}$

$2\sqrt{24}$

$2\sqrt{12}$

$2\sqrt{6}$

$2\sqrt{3}$

$4\sqrt{3}$

5) $5\sqrt{7}+9\sqrt{7}$

$14\sqrt{7}$

6) $\sqrt{24}-\sqrt{96}+\sqrt{6}$

$2\sqrt{6}-4\sqrt{6}+\sqrt{6}$

$-\sqrt{6}$

7) $\sqrt{5}\cdot\sqrt{8}$

$\sqrt{40}$

$2\sqrt{10}$

8) A marketing department determines that the price of a *People* magazine subscription for one year and the demand to subscribe are related to the equation: $P=52-\sqrt{0.0002x+1}$, where P is the ~~price~~ per subscription and x is the number of subscriptions sold. If the yearly subscription price is set to \$30, how many subscriptions would be sold?

$30=52-\sqrt{.0002x+1}$

$-52 \quad -52$

$-22=-\sqrt{.0002x+1}$

$-1 \quad -1$

$484=.0002x+1$

2,415,000