NAME:_____

8.6 Solve Radical Equations

Ex 1:

Check

Ex 2:

Check

Ex 3:

Check

Ex 4:

Check

Ex 5:

Check

Ex 6:

Check

Ex 7:

Check

Ex 8:

Check

Ex 9:

Check

Extraneous Solutions:

Ex 10:

Ex 11:

Check

Check

You Try!

1)

2)

Summarize your notes:

8.6 Practice Problems

Directions: Solve the equation. Check your answer.

1) $2 + \sqrt{r} = 11$

2) $\sqrt[3]{x} - 10 = -3$

3) $\sqrt[3]{5x - 1} + 6 = 10$

4) $-5\sqrt{x + 1} + 12 = 2$

5) $2\sqrt[3]{8x} + 9 = 5$

6) $\frac{1}{2}x^{5/2} = 16$

7) $(x - 2)^{3/4} = 1$

8) $(8x)^{4/3} + 44 = 300$

9) $\left(\frac{1}{3}x - 11\right)^{1/2} = 5$

10) $(3x + 43)^{2/3} + 22 = 38$

11) $\sqrt{\frac{x}{5}} = \sqrt{22 - 2x}$

12) $\sqrt{22 - 3x} = x - 6$

13) $x = 2 + \sqrt{7x - 6}$

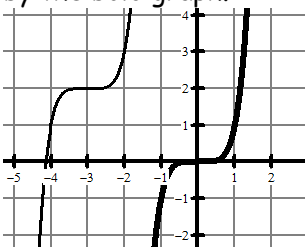
14) $\sqrt{b - 7} = \sqrt{9 - b}$

15) $\sqrt{-5 - 6x} = 5 + \sqrt{-5 - x}$

16) $1 + \sqrt{6x - 6} = x$

Algebra Skillz

Below, the parent function $f(x) = x^5$ is represented by the bold graph.



Write the equation of the function not in bold.

3) $\frac{\sqrt{2}}{2\sqrt{8}}$

4) $\frac{2\sqrt{2}}{\sqrt{14}}$

5) Factor:
$10g^5 - 29g^4 + 10g^3$

6) Factor and solve.
$21x^2 + 28x = 6x + 8$

SAT PREP Below are sample SAT questions. The SAT is the main standardized test that colleges look at for admission. One is multiple choices; the other is free response where you must grid in your answer. Blow it up.

MULITPLE CHOICE

If *n* and *p* are positive integers and $4^{n/p} = \sqrt[4]{1024}$, then the product of *n* and *p* is:

(A) -1
(B) 20
(C) 24
(D) 28
(E) 32

GRID IN

If $p^m \cdot p^8 = p^{16}, and\ (p^9)^n = p^{-27}$, what is the value of *m-n*?

8.6 Application and Extension

Solve the equation. Check your answer.

1) $\sqrt[3]{x-2} + 5 = 8$

2) $\sqrt{x-3} = \sqrt{x+4} - 1$

3) Hangtime is the amount of time you are suspended in the air during a jump. Your hangtime, t (in seconds) is given by the function $t = 0.5\sqrt{h}$ where h is the height of the jump (in feet). Mr. Kelly has a hangtime of 0.67 seconds, Mr. Brust of 0.15 seconds and Mr. Bean of 0.54 seconds.

a) Find how high each Algebro jumps according to their hangtime.

b) Double the time for each Algebro and find how high each Algebro jumps then.

c) If the hangtime doubles, does the height they jump double? Explain.

4) Use the following functions for below: $f(x) = \sqrt{x+3} + 1$ and $g(x) = -\sqrt{x} + 4$.

a) Set the functions equal to each other and solve.

b) Graph f(x) and g(x) on the graph.

c) How does the graph relate to the solutions in step A?