PAP Algebra 2 **Name _____**
HW – Solving Radical Equations **Date _____ Period _____**

Solve each equation. Check each answer to make sure it is not an extraneous solution.

1) $4\sqrt{3h}+36 = 0$

2) $0=\sqrt{-8-2a}$

3) $10-\sqrt{2x}=5$

4) $\sqrt[3]{d+2}=-7$

5) $\sqrt{2p}+3 = 10$

6) $\sqrt{2m-6}=\sqrt{3m-14}$

7) $\sqrt[4]{2x+6}=-2$

8) $8+\sqrt{x+1}=2$

9) $(6u-5)^{\frac{1}{3}}+2=-3$

10) $(7w+2)^{\frac{1}{4}}+2=7$

11) $\sqrt{x+19} = x-1$

12) $\sqrt{x-15} = 3-\sqrt{x}$

STUNT PROBLEM:

The formula $s = \sqrt{21d}$ relates a stunt car driver's speed ***s*** in miles per hour at the beginning of a skid to the length ***d*** of the skid in feet.

13) A stunt driver must skid her car to a stop just in front of a wall. When the driver starts her skid, she is travelling at 64 mi/hr and is 200 feet from the wall. When the driver comes to a stop, how many feet will be between her car and the wall? Round to the nearest foot.

Amusement Park Problem:

For a spinning amusement park ride, the velocity ***v*** in meters per second of a car moving around a curve with a radius ***r*** meters is given by the formula $v = \sqrt{ar}$, where ***a*** is the car's acceleration in m/s^2.

14) For safety reasons, a ride has a minimum acceleration of $39.2\ \text{m/s}^2$. If the cars on the ride have a velocity of 14m/s, what is the smallest radius that any curve on the ride may have?

15) What is the acceleration of a car moving at 8m/s around a curve with a radius of 2.5 m?