Math 2/2H Name_____

2.1 Exponent Properties

Date_____ Period____

Write each expression in radical form.

1) $(6p)^{\frac{3}{2}}$

2) $n^{\frac{1}{4}}$

3) $(4r)^{\frac{4}{3}}$

4) $x^{\frac{7}{4}}$

Write each expression in exponential form.

5) $\left(\sqrt[3]{7v}\right)^4$

6) $\left(\sqrt{5n}\right)^5$

7) $\left(\sqrt[3]{6a}\right)^5$

8) $\left(\sqrt{6x}\right)^3$

Simplify. Your answer should contain only positive exponents.

9) $\dfrac{m^4n^2}{n^4}$

10) $3^{\frac{1}{2}} \cdot 3^{-\frac{1}{2}}$

11) $3^{-3} \cdot 3^{-2}$

12) $2^4 \cdot 2^2$

13) $\dfrac{2k^{-2}}{4k^3}$

14) $x^2x^{\frac{3}{2}}$

15) $2p^{\frac{3}{2}} \cdot p$

16) $\dfrac{2^{\frac{1}{2}}}{2^{\frac{1}{4}}}$

17) $\left(x^2y^3\right)^4$

18) $\dfrac{x^2}{x^{-3}y^{-4}}$

19) $\dfrac{a^{\frac{3}{2}}}{a^{-1}}$

20) $\left(2^4\right)^2 \cdot 2^3$

21) $\left(2^{-\frac{1}{2}}\right)^{\frac{1}{2}}$

22) $\left(x^{\frac{3}{2}}\right)^{\frac{3}{2}}$

23) $\left(k^{\frac{3}{2}}\right)^2$

24) $\left(n^{-\frac{3}{2}}\right)^{-\frac{1}{2}}$

25) $\left(\dfrac{n^{-\frac{1}{2}}}{n^{\frac{3}{2}}}\right)^{-1}$

26) $\left(\dfrac{x^{\frac{1}{2}}}{x^{-\frac{1}{2}}}\right)^{-\frac{3}{2}}$

REVIEW

27) What are the solutions to the equation?
$x^2 - 4x + 9 = 6$

28) What are the solutions to the equation?
$x^2 + 7x + 14 = 4$

29) Ross has (8x – 5) tickets for Chuck E Cheese. He is going to play today and wants to buy a prize that is (15x + 1) tickets. How many tickets must he win to have enough tickets to buy the prize?