

## Day 3 Homework -- Properties of Exponents

Period \_\_\_\_\_

**Simplify. Your answer should contain only positive exponents.**

1)  $2^0 \cdot 2^2$

2)  $\left((2^2)^{-1} \cdot 2^{-3}\right)^2$

3)  $n^{-2}n^0$

4)  $(2a^4)^{-3} \cdot (2a^0)^{-4}$

5)  $(2vu^{-2})^4 \cdot u^3v^2$

6)  $(x^{-3}y^3)^{-1} \cdot 2x^4y^3$

7)  $\frac{2^{-1}}{2^2 \cdot 2^4}$

8)  $\left(\frac{2^4}{2^2 \cdot 2^{-2} \cdot 2^{-2}}\right)^4$

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

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

11)  $\frac{y^4 \cdot 2x^4 y^{-1} \cdot x^4}{x^{-1}}$

12)  $\frac{(2yx^2 \cdot y^{-2})^{-2}}{x^2 y^2}$

**Classify the polynomial based on the number of terms, degree and list all coefficients and constants.**

13)  $-3x^5 - x^4 + 7$

**Factor each completely.**

14)  $b^2 - b - 90$

15)  $2m^2 - 10m$

16) BONUS  
 $3r^2 - 3$

17) BONUS  
 $r^3 + 3r^2 - 70r$

**Simplify.**

18) BONUS  
 $2b^{\frac{1}{2}} b^2$

19) BONUS  
 $3p^{\frac{1}{2}} \cdot p$