

Name _____ Date _____

Properties of Exponents Review

Section 10.1- Exponents

Write the product using exponents.

1) $4 \bullet 4 \bullet 4 \bullet 4 \bullet 4$

2) $\left(-\frac{1}{8}\right) \bullet \left(-\frac{1}{8}\right) \bullet \left(-\frac{1}{8}\right)$

3) $5 \bullet 5 \bullet (-x) \bullet (-x) \bullet (-x) \bullet (-x)$

4) $9 \bullet 9 \bullet y \bullet y \bullet y \bullet y \bullet y \bullet y$

Evaluate the expression.

5) $(-7)^4$

6) $-\left(\frac{1}{6}\right)^5$

7) $3 + 6 \bullet (-5)^2$

8) $\left| -\frac{1}{3}(1^{10} + 9 - 2^3) \right|$

Section 10.2- Product of Powers

Simplify the expression. Write your answer as a power.

9) $(-6)^5 \bullet (-6)^4$

10) $\left(\frac{4}{5}\right)^3 \bullet \left(\frac{4}{5}\right)^{12}$

$$11) (y^{10})^{20}$$

$$12) \left(\left(-\frac{2}{9} \right)^8 \right)^7$$

Simplify the expression.

$$13) (2a)^6$$

$$14) (-4b)^4$$

$$15) \left(-\frac{9}{10}p \right)^2$$

$$16) (xy)^{15}$$

$$17) 10^5 \cdot 10^3 - (10^1)^8$$

$$18) 7^2(7^4 \cdot 7^4)$$

Section 10.3- Quotient of Powers

Simplify the expression. Write your answer as a power.

$$19) \frac{7^6}{7^5}$$

$$20) \frac{(-21)^{15}}{(-21)^9}$$

$$21) \frac{(3.9)^{20}}{(3.9)^{10}}$$

$$22) \frac{8^7 \cdot 8^4}{8^9}$$

Simplify the expression.

$$23) \frac{k \cdot 3^9}{3^5}$$

$$24) \frac{x^4 \cdot y^{10} \cdot 2^{11}}{y^8 \cdot 2^7}$$