

Name _____

EXPONENT REVIEW

Directions: Evaluate each expression. Leave your answer in exponential form. You may *not* leave negative exponents in your answer. You must show work for each question.

1) $5^3 \times 5^7$

5) $\frac{3^8}{3^3}$

2) $c^2 \times c^{-6}$

6) $\frac{n^6}{n^{-7}}$

3) $12^{-4} \times 12^9$

7) $\frac{4^{-12}}{4^{-5}}$

4) $1^{-17} \times 1^{20}$

8) $\frac{y^{22}}{y^{12}}$

9) $(7^3)^4$

11) $\frac{12a^{10}b^8}{3a^5b}$

10) $(r^{-3})^4$

12) $(-6x^3y^4)(3x^2y^3)$

**Directions: Evaluate each expression. Leave your answer in standard form
(No exponents). SHOW YOUR WORK**

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

15) $\left(\frac{1}{2}\right)^{-4}$

14) 9^0

16) $\frac{8^{19}}{8^{15}}$

- 17) Explain why any non-zero base number raised to the zero power is equivalent to 1. Use words, numbers, and/or symbols to help with your explanation.

- 18) Part A

Evaluate the expression below. Keep your answer in exponential form:

$$(g^2)^4$$

Answer _____

Part B

Explain how you came to your answer. Be specific.

19) Part A

Evaluate the expression below. Write your answer using positive exponents:

$$\frac{9^{-4}}{9^{-9}}$$

Answer _____

Part B

Explain how you came to your answer. Be specific.

20) Evaluate the expression below. Write your answer in standard form

$$4^2 \bullet 3^2 \bullet 4^2$$

Answer _____