

Name: \_\_\_\_\_ Class: \_\_\_\_\_ Date: \_\_\_\_\_

## STUDY GUIDE #2 - Exponents

**M.8.EE.1** Use the properties of integer exponents to generate equivalent numerical expressions.

What is the simplified form of each expression?

1.  $(3)^{-5}$

2.  $8c^7m^{-4}$

3.  $(4x)^0$

4.  $-2p^{-6}h^{10}$

5.  $\frac{4z^{10}}{x^2y^{-8}}$

6.  $-6k^{-3} \cdot 8k^6$

7.  $(g^4) \cdot 9h^8 \cdot 4g^{-2}$

8.  $9x^9 \cdot 2x^3$

9.  $x^6 \cdot x^0 \cdot x^5$

10.  $(g^{-2})^{-4}$

11.  $(j^5)^{-1}$

12.  $(p^3)^5$

13.  $4^{-3}$

14.  $(-5)^2$

15.  $-6^{-2}$

16.  $\frac{h^{-6}}{h^2}$

17.  $\frac{b^{-2}}{b^{-7}}$

18.  $\frac{m^{-3}}{m^{-3}}$

19.  $\frac{z^{-5}}{z^5}$

20. Which of the following expressions is **NOT** equivalent to  $\frac{2}{25}$  ?

A.  $2^{-1} \cdot 5^2$

B.  $2^2 \cdot 5^{-2} \cdot 2^{-1}$

C.  $\frac{5^{-2}}{2^{-1}}$

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D.  $\frac{1}{2^{-1}5^{-2}}$

21. Which of the following IS equivalent to  $3^2 + 3^3$  ?

A.  $3^5$

B.  $6^2$

C.  $6^5$

D.  $2^5 + 2^2$

22. Write the number below in **standard notation**.

a)  $2^4 \cdot 2^{-5} \cdot 2^7$  \_\_\_\_\_

b)  $8 \cdot 8^{-2} \cdot 8^8 \cdot 8^{-5}$  \_\_\_\_\_

23. Write each number below in **exponential form**:

a)  $8 \cdot 8 \cdot 8 \cdot 8 \cdot x \cdot x \cdot x =$  \_\_\_\_\_

b)  $(-5)(-5)(-5)(-5)(-5)(-5) =$  \_\_\_\_\_

c)  $y^5 \cdot y^{12} =$  \_\_\_\_\_