Exponent Operations Worksheet #1 **Name**_____

Multiplication

Part 1: Expand each expression then evaluate

.) 2^8 = _____ _____ _____ _____ _____ _____ _____ _____ = _____

2.) 5^3 =

3.) x^5 =

4.) 10^3 =

5.) $8^1 \cdot 8^4$ =

6.) $7^2 \cdot 7^3$ =

7.) $x^5 \cdot x^4$ =

8.) If two expressions have the same **factor** or **base**, what happens to the exponents when the expressions are **multiplied**?

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Example: $(7x^2)(2x^3)$

Part 2: Simplify each expression.

9.) $2^3 \cdot 2^4$

10.) $8^1 \cdot 8^3$

11.) $t^4 \cdot t^4$

12.) $x^5 \cdot x^9$

13.) $3^4 \cdot x^3 \cdot x^5$

Part 3: Find the product of the expressions.

14.) $(6x^2)(4x^2)$

15.) $(3x^3y^2)(-6y^5)$

16.) $(5p^3)(-m^8p^2)$

17.) $(10g^3h^8v^6)(11gh^8)$

18.) $(4f^9h^3)(-5f^6)(-3h^2)$

9.) $(-2^2x^3y^4)(-3)^2x^4y^4)$

20.) *Challenge: $(3x^ay^bz^c)(-y^fz^g)$