

Lesson 4-7 Exponents and Multiplication

Powers are

- Repeated Multiplication

$$7^2 \cdot 7^3$$

$$=$$

Multiplying powers with the same base

$$2^3 \cdot 2^4$$

Powers and Algebra & Multiplication

$$a^n \cdot a^m = a^{n+m}$$

$$3^6 \cdot 3^{18} =$$

Samples (1)

$$6a^3 \cdot 3a^2$$

$$\underline{6 \cdot 3} \cdot a^3 \cdot a^2$$

- multiply coefficients using commutative property
- use power rules for x
- Simplify

Samples (2)

$$-5c^2 \cdot -3c^7$$

Finding a Power of a power

- $(7^2)^2$
 (7^2) is used as a base 3 times

Powers of a power in algebra

$$(a^m)^n = a^{mn}$$

So,

$$b^2 \cdot b^6 = b^{2+6} = b^8$$

Samples of power of a power

$$(2^4)^2 =$$

$$(c^5)^4 =$$

Samples of power of a power

$$(m^3)^2 =$$

PRACTICE AND HW

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- HW Page 4-7 10-48 even