

6.2 Multiplying By A Monomial

monomial times monomial

*** Use commutative and associative properties to reorder and regroup

*** There are different rules for different types of numbers...

- coefficient - multiply
- exponent - add
- base - keep

Examples:

$$1. 5y(7) \\ (5 \cdot 7)(y) \\ \boxed{35y}$$

$$2. 2a^2(4a^3) \\ (2 \cdot 4)(a^2 \cdot a^3) \\ \boxed{8a^5}$$

$$3. (5x)(6y) \\ (5 \cdot 6)(x)(y) \\ \boxed{30xy}$$

$$4. 3x(7x) \\ (3 \cdot 7)(x \cdot x) \\ \boxed{21x^2}$$

$$5. (-2x^2)(5x^4) \\ (-2 \cdot 5)(x^2 \cdot x^4) \\ \boxed{-10x^6}$$

$$6. -6y^3(y) \\ (-6 \cdot 1)(y^3 \cdot y) \\ \boxed{-6y^4}$$

Page 1

Page 2

$$7. 8xy(3z) \\ (8 \cdot 3)(x)(y)(z) \\ \boxed{24xyz}$$

$$8. (-5x^2y^3)(-2xy) \\ (-5 \cdot -2)(x^2 \cdot x)(y^3 \cdot y) \\ \boxed{10x^3y^4}$$

$$9. -x^3(2x^4y^2) \\ (-1 \cdot 2)(x^3 \cdot x^4)(y^2) \\ \boxed{-2x^7y^2}$$

$$10. 8y(-4x^3y^2)(2x^5y^6) \\ (8 \cdot -4 \cdot 2)(x^3 \cdot x^5)(y \cdot y^2 \cdot y^6) \\ \boxed{-64x^8y^9}$$

$$11. (-3x^2)^3 \leftarrow \begin{matrix} \text{means multiply} \\ \text{by itself} \\ 3 \text{ times} \end{matrix} \\ (-3x^2)(-3x^2)(-3x^2) \\ (-3 \cdot -3 \cdot -3)(x^2 \cdot x^2 \cdot x^2) \\ \boxed{-27x^6}$$

$$12. (4a^2b^3)(2a^3)(3b) \\ (4 \cdot 2 \cdot 3)(a^2 \cdot a^3)(b^3 \cdot b) \\ \boxed{24a^5b^4}$$

Page 3

HOMEWORK

Worksheet 6.2 - Multiply Monomials

Page 4