Name: _____ Class: _____ Date: _____ ID: A

Lesson #2 A: Understanding and Simplifying Variables and Algebraic Expressions using the Product Properties of Exponents (Reference: Lesson #2 & #3 in book)

Problem

1. **Identify the terms in each expression and the parts that make up each expression.**

   1. $21abc + 13jfp - 32$

      1st Term:
      2nd Term:
      3rd Term:
      Factors:
      Coefficients:
      Variables:
      Constants:

   2. $11abc + 7xy - z$

      1st Term:
      2nd Term:
      3rd Term:
      Factors:
      Coefficients:
      Variables:
      Constants:

   3. $6ab - 11cd - \frac{xy}{3}$

      1st Term:
      2nd Term:
      3rd Term:
      Factors:
      Coefficients:
      Variables:
      Constants:

4. $-6yz - \frac{8ac}{4} - 15$

   1st Term:
   2nd Term:
   3rd Term:
   Factors:
   Coefficients:
   Variables:
   Constants:

5. **Simplify each of the following expressions.**

   5. $\left(\frac{3}{4}\right)^2$

6. $\left(\frac{2x}{3y}\right)^3$

7. $x^2 \cdot x^3 \cdot x \cdot x^4$

8. $x \cdot y^3 \cdot x^2 \cdot y^4 \cdot x^3 \cdot y$

9. $z^2 \cdot x^3 \cdot y^6 \cdot y^2 \cdot z \cdot x^5$

10. $2x^3 \cdot y^2 \cdot z^4 \cdot 4z^3 \cdot 2y$

11. $\frac{1}{2}w^2 \cdot y \cdot \frac{1}{3}z^4 \cdot 6y^5 \cdot w$

12. $x^3 \cdot w^4 \cdot \frac{1}{3}a^2 \cdot \frac{2}{3}w^5 \cdot 9a^9$