Evaluation Worksheet
January 19, 2005

1. Factor each of the following integers into a product of prime numbers.
   (a) $12 = 2^2 \cdot 3$
   (b) $120 = 2^3 \cdot 3 \cdot 5$
   (c) $1024 = 2^{10}$

2. Write the following numbers from smallest to largest. $|−3|$, $−7$, $|−7|$, $−3$.
   $−7$ $−3$ $|−3| = 3$ $|−7| = 7$

3. Evaluate each of the following expressions.
   (a) $4 − 6 + 3 = −2 + 3 + 1$
   (b) $\sqrt{9} + \sqrt{64} + \sqrt{16} = 3 + 4 + 2 = 9$
   (c) $\frac{1}{2} + \frac{1}{3} = \frac{3}{6} + \frac{2}{6} = \frac{5}{6}$

4. Simplify each expression.
   (a) 
   \[
   (x^2)^3 = (x^2)(x^2)(x^2) = (x \cdot x)(x \cdot x)(x \cdot x) = x^6
   \]
   (b) $x^2 \cdot x^3 = (x \cdot x)(x \cdot x \cdot x) = x^5$
   (c) 
   \[
   (x + y)^2 = (x + y)(x + y) = (x + y)(x + y)y = x^2 + xy + xy + y^2 = x^2 + 2xy + y^2
   \]