

Math 106 Sections 010 and 020
Review Worksheet
August 26, 2013

Directions: These problems are designed to remind you of a few of the concepts you should have seen in an algebra course. Relax, try your best, and **be sure to get help with any problems you have trouble with**. The sections listed below correspond to those at the back of your textbook.

Algebraic Expressions

1. Evaluate $4 + 5(x - 7)^3$ when $x = 9$
2. Simplify $|| - 3| - | - 7||$

Section R.1: Exponents and Polynomials

1. Evaluate -9^2
2. Evaluate $(x^2)^3$
3. Simplify x^3x^7
4. Put $(2x - 3)(x^2 - 3x + 5)$ in standard form (i.e. the terms should be ordered from largest power of x to smallest power of x).

Section R.2: Review of Factoring

For each of the following, factor as completely as possible.

1. $3x^2 - x - 2$
2. $36x^2 - 49$

Section R.3: Review of Rational Expressions

Simplify the following expressions as completely as possible.

1. $\frac{x^2-4}{x} \div \frac{x+2}{x-2}$
2. $\frac{3}{x+4} + \frac{6}{x+5}$

Sections R.4 and R.5: Review of Negative and Rational Exponents; Review of Radicals

For each of the following expressions, either simplify as much as possible or state that the expression is not a real number. When relevant, assume x is a nonnegative real number.

1. $\sqrt{144 + 25}$

2. $\sqrt{-11^2}$

3. $\sqrt[3]{-8}$

4. $32^{-\frac{4}{5}}$