You may not use calculators, cell phones, textbooks, or notes of any kind on the exam. You may not have headphones on while taking the exam. You must do all your work algebraically on the exam and your work must support your answer. Separate sheets of paper are not accepted. Show all your work for each problem. Dishonesty of any kind or communicating with your classmates while taking this exam will result in automatic failure of the exam with no chances to make up the test. All final answers should be marked clearly. All illegible answers will be marked incorrect. If you leave the classroom for any reason (including to use the restroom), you must first turn your test in and you will not be allowed to work on it further.

I have read and understand the above policies.

Student Name: _____

Student Signature: _____

Date: _____

Math 090
Test 2- Summer 2009

NAME:

INSTRUCTIONS: Read each problem carefully. In all problems, SIMPLIFY COMPLETELY.

For numbers 1-4: Simplify the following completely. Write all answers without negative exponents.

1) $\frac{3}{4} - \frac{5}{12}$

2) $\frac{x-2}{4} - \frac{x-3}{6}$

3) $\dfrac{\frac{3}{2} + \frac{1}{3}}{\frac{5}{6}}$

4) $\frac{x}{3} \div \frac{x^3}{9}$

For numbers 5-10: Simplify. Then write all the numbers that must be excluded from the domain.

5) $\frac{2x}{x-1}+\frac{5}{x+2}$

6) $\frac{x+3}{x}-\frac{1}{x-5}$

7) $\frac{x^3+2x^2}{x+2}$

8) $\frac{x-2}{x^2-4}\cdot\frac{x^2+5x+6}{x-2}$

9) $\frac{6x+2}{x^2-1} \div \frac{3x^2+x}{x-1}$

10) $\frac{5-\frac{2}{x}}{7}$

For numbers 11-14: Solve the following equations.

11) $x^2 = 3x$

12) $x^2 + x = 2$

13) $x^2 = 49$

14) $5x^3 - 10x^2 - 15x = 0$

For numbers 15-16, use algebra to solve the problems.

15) The area of a rectangular yard is 63 yd^2. The length of the yard is two yards more than the width. Find the dimensions of the yard.

16) The product of two positive numbers is 45. The larger number is one less than twice the smaller number. Find the two numbers.

17) Give an example of:

a. a polynomial.

b. a rational expression.