PRINTED ON BOTH SIDES

Meramec Intermediate Algebra Quiz 7 Summer 2009

NAME: _____Score_____/10

Please **print** your name

SHOW ALL YOUR WORK IN A NEAT AND ORGANIZED FASHION

1. Perform the indicated multiplication. **Simplify.**

$$\left(\frac{2x-4}{15}\right)\left(\frac{6}{x+2}\right) = \frac{(2X-4)(6)}{15(X+2)} = \frac{(2)(2)(\cancel{3})(X-2)}{(5)(\cancel{3})(X+2)} = \frac{4(X-2)}{5(X+2)}$$

2. Perform the indicated addition. **Simplify.**

$$\left(\frac{x+2}{x^2-36}\right)+\left(\frac{x}{x^2+9x+18}\right) = \left(\frac{X+2}{(X-6)(X+6)}\right)+\left(\frac{X}{(X+6)(X+3)}\right) =$$

$$\left(\frac{(X+2)(X+3)}{(X-6)(X+6)(X+3)}\right)+\left(\frac{X(X-6)}{(X-6)(X+6)(X+3)}\right) =$$

$$\left(\frac{X^2+5X+6+X^2-6X}{(X-6)(X+6)9X+3}\right) = \left(\frac{2X^2-X+6}{(X-6)(X+6)9X+3}\right)$$

3. Change the following subtraction problem to an equivalent addition problem. **Don't bother doing the addition.**

Either the red or the blue is acceptable. Blue is preferred while learning.

$$\left(\frac{y+1}{y^2-6y+8}\right)-\left(\frac{3}{y^2-16}\right)=\left(\frac{y+1}{y^2-6y+8}\right)+\left(\frac{-3}{y^2-16}\right)$$

$$\left(\frac{y+1}{y^2-6y+8}\right)+\left(\frac{-3}{y^2-16}\right)$$

4. Change the following division problem to an equivalent multiplication problem. **Don't bother doing the addition.**

Either the red or the blue is acceptable. Blue is preferred while learning.

$$\left(\frac{y+1}{y^2-6y+8}\right)\div\left(\frac{3}{y^2-16}\right)=\left(\frac{y+1}{y^2-6y+8}\right)\bullet\left(\frac{y^2-16}{3}\right)$$

$$\left(\frac{y+1}{y^2-6y+8}\right)\bullet\left(\frac{y^2-16}{3}\right)$$

5. What is the least common denominator of the listed rational expressions?

$$\frac{x}{x^2-9},\quad \frac{5}{x},\quad \frac{7}{12-4x}$$

Factor each of the denominators:

$x^2 - 9 = (x - 3)(x + 3)$
$x = x$
$12 - 4x = 4(3 - x) = -4(x - 3)$
The LCD is $-4x(x - 3)(x + 3)$