

**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.**

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

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

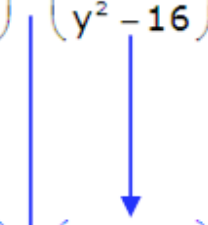
$$\left(\frac{x^2+5x+6+x^2-6x}{(x-6)(x+6)(x+3)}\right) = \left(\frac{2x^2-x+6}{(x-6)(x+6)(x+3)}\right)$$

## PRINTED ON BOTH SIDES

---

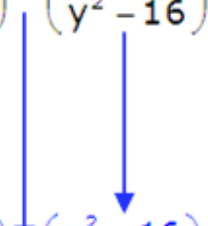
3. Change the following subtraction problem to an equivalent addition problem. **Don't bother doing the addition.**

**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.**

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

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

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:**

$$x^2 - 9 = (x - 3)(x + 3)$$

$$x = x$$

$$12 - 4x = 4(3 - x) = -4(x - 3)$$

$$\text{The LCD is } -4x(x - 3)(x + 3)$$