MTH-4106-1
Factoring and Algebraic Fractions

Name:

Date:

Quiz # 10

The following two algebraic expressions are equivalent. Demonstrate their equivalence by transforming the expression on the left side.
Show all the steps in the solution. (10 marks)

$$\frac{-a^2-a+12}{a^2+4a}+\frac{a}{a+3}=\frac{9}{a^2+3a}$$

2. The following two algebraic expressions are equivalent. Demonstrate their equivalence by transforming the expression on the left side.
Show all the steps in the solution. (10 marks)

$$\frac{4m+1}{m^2+4m+3} - \frac{4}{4m+12} = \frac{3m}{m^2+4m+3}$$

3. The following two algebraic expressions are equivalent. This time, demonstrate their equivalence by transforming both expressions.
Show all the steps in the solution. (10 marks)

$$\frac{2(x+4)}{x^2+x-12} - \frac{4}{x-2} = \frac{2}{2-x} + \frac{2}{x^2-5x+6}$$

4. The following two algebraic expressions are equivalent. Again, demonstrate that they are equivalent by transforming both expressions.
Show all the steps in the solution. (10 marks)

$$\frac{(x^2-1)}{x^2+x-2} - \frac{(y^2-9)}{(y+3)^2} = \frac{3}{y+3} + \frac{-y+3x+3}{xy+6+2y+3x}$$