Math 135 - section 01 - Precalculus Diagnostic Quiz
August 30, 2013

Your Name:_____

Show your work and circle the correct answer. Please turn over for problems 4,5,6.

1. Let $f(x) = x^2 - x$ and $g(x) = x + 1$. Which function is $f(g(x))$?

   A. $x^2 - x$ B. $x^2 + 3x$ C. $x^2 + x$ D. $x^2 + x + 2$

2. Find common factors and cancel to simplify: $\dfrac{12x}{3x - 6} \cdot \dfrac{x^2 - 4}{2x + 4}$

   A. $\dfrac{x^2 + 12x - 4}{5x - 2}$ B. $2x$ C. $-\dfrac{4}{3}(x - 1)$ D. $\dfrac{12x^3 - 48x}{6x^2 - 12}$

3. Which is equal to $\left(u^{-5}v^2\right)^3 \left(\dfrac{v^2}{u}\right)^{-1}$?

   A. $u^{-16}v^8$ B. $u^{-14}v^4$ C. $u^{-9}v^3$ D. $(uv)^{-7}$

4. If $f(x) = 5x^2 - 11$, what is $f(a+1) - f(a)$?

5. Find all real number values of x satisfying $2(x - 2) > 5$.

6. Solve for x: $2x^2 - x - 6 = 0$ (find all real number solutions).