Name (printed): SOLUTIONS

MATH 1010-3: QUIZ 6

October 7, 2010

1. (4 points) Rewrite the following expression using only positive exponents and simplify:

$$\left(\frac{3x^2y^{-2}}{z}\right)^{-2}.$$

Solution.

$$\begin{aligned}\left(\frac{3x^2y^{-2}}{z}\right)^{-2} &= \left(\frac{3x^2}{y^2z}\right)^{-2}\\ &= \left(\frac{y^2z}{3x^2}\right)^{2}\\ &= \frac{(y^2)^2z^2}{3^2(x^2)^2}\\ &= \frac{y^4z^2}{9x^4}.\end{aligned}$$

2. (3 points) Simplify the following difference of polynomials using any method your choose:

$$(5q^2 - 3q + 5) - (4q^2 - 3q - 1).$$

Solution.

$$(5q^2 - 3q + 5) - (4q^2 - 3q - 1) = 5q^2 - 3q + 5 - 4q^2 + 3q + 1.$$

Combining like terms, we get

$$q^2 + 6.$$

3. (3 points) Find the indicated product by any method you choose:

$$(x - 2)(2x^2 + 5x + 3).$$

Solution. Using the distirbutive law, we have

$$(x - 2)(2x^2 + 5x + 3) = 2x^3 + 5x^2 + 3x - 4x^2 - 10x - 6.$$

Combining like terms, we then get

$$2x^3 + x^2 - 7x - 6.$$