

Algebra 201-007-50 C2

Quiz 6

October 8, 2008

Name: SOLUTIONS

Student Number:

1. (5 marks). Simplify, expressing the answers with positive exponents only:

$$\frac{(4x^{-2}y^{-3})^{-3}}{(3^{-2}x^4y^{-8})^{-2}}$$

$$= \frac{(3^{-2}x^4y^{-8})^2}{(2x^{-2}y^{-3})^3} = \frac{3^{-4}x^8y^{-16}}{2^3x^{-6}y^{-9}}$$

$$= \frac{x^8x^6y^8}{3^42^3y^{16}} = \frac{x^{14}y^{8-16}}{81 \cdot 8} = \frac{x^{14}y^{-8}}{648}$$

$$= \frac{x^{14}}{648y^8}$$

2. (5 marks). Simplify:

$$3x(2x+3)^2 - (7x^3 - 4x^2 + 5)$$

$$= 3x(4x^2 + 12x + 9) - 7x^3 + 4x^2 - 5$$

$$= 12x^3 + 36x^2 + 27x - 7x^3 + 4x^2 - 5$$

$$= 5x^3 + 40x^2 + 27x - 5$$