

Last Name: \_\_\_\_\_

First Name: \_\_\_\_\_

Student ID: \_\_\_\_\_

## Quiz 1 (B)

**Question 1.** (3 marks) Rationalize the denominator in the expression:

$$\frac{y}{\sqrt[3]{z^2x}}$$

**Question 2.** (3 marks) Simplify the expression (express your answer with positive exponents only):

$$\left(\frac{a^3}{-27b^{-6}}\right)^{-2/3}$$

**Question 3.** (6 marks) Factor the following completely:

(a)  $x^3 - 3x^2 - 4x + 12$

(b)  $12x^2 - 23x + 10$

(c)  $(x - 1)^3 + 8$

**Question 4.** (8 marks) Simplify the following expressions:

(a)  $\frac{y + z^2y^{-1}}{y - z^4y^{-3}}$

(b)  $\frac{1}{1 - \frac{1}{1+a}} + \frac{1}{1 - \frac{1}{1-a}}$