Dawson College: **Business Mathematics**: 201-914-DW-S02: Fall 2008

Name: _____
Student ID: _____

Test 1

This test is graded out of 50 marks. No books, notes, graphing calculators or cell phones are allowed. You must show all your work, the correct answer is worth 1 mark the remaining marks are given for the work. If you need more space for your answer use the back of the page.

Question 1. *(2 marks)* 3 is 20% of what number?

Question 2. *(1 mark each)* Simplify and write all answer without using exponents and decimals:

a.

$$-(-2)^3$$

b.

$$\left(\frac{-2}{3}\right)^4$$

c.

$$\left(\frac{5}{-2}\right)^{-3}$$

d.

$$(257)^0$$

Question 3. *(2 marks each)* Simplify and write all answers so that only positive exponents remain:

a.

$$\left(\frac{y^{-3}}{y^{-4}}\right)^2$$

b.

$$\left(\frac{-x}{2}\right)^{-2}$$

Question 4. *(5 marks)* Simplify and write the solution so that only positive exponents remain:

$$\left(\frac{x^{-3}y^{2}z^{0}}{-x^{2}y^{-4}z}\right)^{-3}$$

Question 5. *(3 marks)* Simplify:

$$x^3 + [3x - (x^3 - 3x)] - (2x - x^3)$$

Question 6. *(2 marks)* Expand and simplify:

$$2x(4x - 1)(x - 3)$$

Question 7. *(4 marks)* Expand and simplify:

$$(x-2)^2-(x+2)(x-2)+13$$

Question 8. *(4 marks)* Divide using long division:

$$(x^3+x-1)\div(x+2)$$

Question 9. *(2 marks)* Factor completely:

$$16x^2-25y^2$$

Question 10. *(4 marks)* Simplify completely:

$$\frac{x}{x-1} - \frac{2}{x^2-1}$$

Question 11. *(6 marks)* Simplify completely:

$$\frac{x^2-x-2}{2x^2-8} \times \frac{18-2x^2}{x^2-5x+4} \times \frac{x^2-2x-8}{x^2-6x+9}$$

Question 12. *(2 marks)* Solve for x:

$$-4(x-2) = 3-(5x-1)$$

Question 13. *(3 marks)* Solve for x:

$$\frac{3x}{8} - \frac{1}{4} = \frac{x+5}{2}$$

Question 14. *(5 marks)* Solve for x:

$$\frac{x}{x+2} - \frac{x}{x-2} = \frac{x+20}{x^2-4}$$