**BRONX COMMUNITY COLLEGE**
**of the City University of New York**

**DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE**

MATH 03 Exam 1
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Name: _____ Secret Name: _____

**Directions:** You *must* show all your work in the provided space. Simplify your answers whenever possible. Be certain to indicate your final answer clearly.

1. Evaluate each of the following expressions. If an operation is *undefined* state so.

(a) $-5-6(2-3)$

(b) $\dfrac{7-3^2}{-6+4}$

(c) $-\sqrt{81}$

(d) $(3-5)^0$

(e) $\dfrac{5\cdot 6-(-2)}{8-2^3}$

(f) $\sqrt{1-10}$

2. If $a = -3$, $b = 2$, $x = -1$, $y = 3$ and $z = -2$ evaluate each of the following expressions:

(a) $-2a - 3b + 7x$

(b) $-b^2 + (z)^2$

(c) $xy - 3(2a + zb)$

(d) $\sqrt{(z-b)^2 + y^2}$

(e) $\dfrac{a}{2a+3}$

(f) $A = \dfrac{2y+b}{2b}$

3. Subtract $8 - 4x^2y + 2xy^2 - y^2$ from $5x^2y + 3xy^2 - 4 + y^2$.

4. Simplify: $(4x^2 - 2) - 3(2x + 1) + (2x^2 + 5x - 2)$.

5. Simplify each of the following expressions:

   (a) $x^5x^4$ (b) $(y^3)^5$

   (c) $\dfrac{2^8}{2^4}$ (d) $\dfrac{-9x^3y^4z^7}{-3x^2y^3z^5}$

6. Multiply $2xy(-3x^2yz)(-2x^4y^4z^3)$.

7. Multiply $-2x^2y^3(-3x+2y-xy^2)$.