HOMEWORK 1 - MATH 102

DUE DATE: Tuesday, January 23

INSTRUCTOR: George Voutsadakis

Read each problem **very carefully** before starting to solve it. Four out of the eight problems will be chosen at random and graded. Each problem graded is worth 3 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points.

GOOD LUCK!!

1. Perform the indicated operations and leave the result in simplified fractional form:
   (a) $-\frac{7}{4}(-\frac{8}{21})$
   (b) $-\frac{5}{7}(\frac{28}{15})$
2. Perform the indicated operations and leave the result in simplified fractional form:
   (a) $-\frac{2}{5} \div (-\frac{7}{10})$
   (b) $\frac{3}{7} \div (-\frac{1}{4})$
3. Perform the indicated operations and simplify, writing your answer without negative exponents:
   (a) $(-5x^{-3}y^2)(6x^{-6}y^5)(\frac{1}{2}xy)$
   (b) $\frac{x^6y^{-3}}{x^3y^4}$
4. Simplify the expression given and write your answer without negative exponents:
   (a) $(-2x^4y^7)^{-4}$
   (b) $(3x^{-3}y^2)^2$
5. Simplify the expression given and write your answer without negative exponents:
   (a) $(\frac{b^3}{a^{-2}})^5$
   (b) $(\frac{x^3y^{-4}}{x^7y^7})^{-3}$
6. Use the correct order of operations and simplify:
   (a) $5 - [3 \cdot (8 - 5)]$
   (b) $24 \div \{(-4)(8 - 2[1 - 3])\}$
7. Remove the parentheses:
   (a) $4(5x - 3y)$
   (b) $-3(-5x + y - 3z)$
8. Remove the parentheses and combine like terms:
   (a) $3x - (7x + 1) + (2x + 1)$
   (b) $4(b + a) + 3(a - b) - 2(b - a)$
   (c) $[3(x + 5) - 10] + [2 - 5(3 + x)]$