Group practice problems for test 2

1. Answer both of the following questions in reference to the function shown in Figure 1.

   a. What is the function value at -2?

   b. What is the solution to the equation $f(x) = -1$?

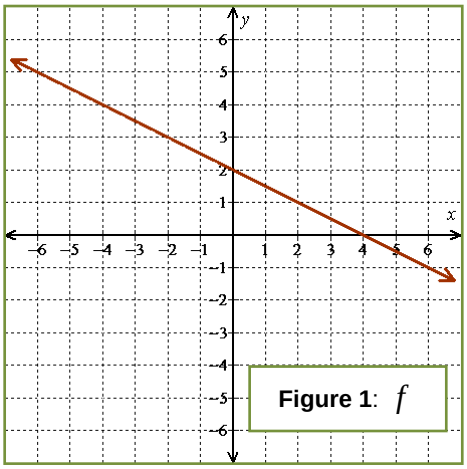

Figure 1: f

2. Consider the function $g(x) = -\frac{x}{2} + 2$.

   a. What is the value of $g(-2)$?

   b. What is the solution to the equation $g(x) = -1$?

3. a. What is the equation of the line in Figure 1? Write the equation in slope-intercept form.

   b. Connect the dots between problems 1, 2, and 3 (a).

4. State the terms and their degrees and coefficients for the following polynomial. Also state the degree of the polynomial, the leading term of the polynomial, and the leading coefficient of the polynomial.

   The polynomial: $5 + x^2 - y^5 + 7x^5 y^9$.

5. Find each value ***without the use of your calculator***.

   a. -4^{-3} b. $\frac{1}{6^{-2}}$ c. -7^0 d. $(-5)^{-2}$ e. -9^2 f. 9^{-2}

6. Simplify each expression. Make sure that your final result contains no negative exponents.

   a. $4x^{-1}$ b. $(3x^{-2}y)^{-3}$ c. $\frac{1}{(2^{-2}x^{-3}y^2)^{-1}}$ d. $\frac{(4a^2b)(6a^{-2}b^{-3})^{-2}}{3^{-3}a^{-2}}$

7. Find each product.

   a. $(xy+7)(xy-7)$ b. $-2c^6d^4(4c^7 + 2cd - 2d^7)$

   c. $(xy^2+4)(x^2y^4 - 4xy^2 + 16)$ d. $(x+y)^3$