MATH Placement Test - A

Name ____________________________

EXAM INSTRUCTIONS
- Your cell phone must be off. You cannot use a calculator.
- You must show all your work. Work neatly. Poor presentation might result on an F.

1. Evaluate when \( a = -\frac{2}{3}, b = 4, c = -1 \) and \( d = \frac{5}{2} \)
   a. \( \frac{2ac}{b} + (-c) = \)

   b. \( 3dc - (4c)^2 = \)

2. Operate and simplify:
   a. \( \frac{x^2}{x^2 + 3x - 18} - \frac{2x}{x + 6} + \frac{x}{x - 3} = \)

   b. \( (2x^3)^2 = \)

   c. \( \left(\frac{-16x^7 y^3}{36x^3 y^5}\right) = \)

   d. \( (x-1)^2 - x^2 = \)

   e. \( (x-1)(x+2) - x^2(5-2x) + 3x = \)

3. Solve the following equations.
   a. \( \frac{x}{x + 2} = \frac{6}{x + 5} \)
b. \[ 2x(3x - 4)(2x + 1) = 0 \]

c. \[ |3x - 2| = \frac{5}{4} \]

4. Solve the following inequality. Write the solution in interval form.
\[ 3x - 2(x + 1) < -x + 3(x + 2) \]

5. Sketch the graph of \( 2x - 3y = 2 \) showing clearly the x and y intercepts.