After Exam 2

Show all work in the space provided. Positive exponents only. Reduce all fraction to lowest terms. Circle all answers.

1) Simplify:

$$\left(\frac{2^{-1}x^{-2}y}{x^4 y^{-1}}\right)^{-2}\left(\frac{xy^{-3}}{x^{-3}y}\right)^{3}$$

2) If $f(x) = x^2 - 3$ and g(x) = 4x + 5, find: (g - f)(3)

Solve the inequalities and graph the solution set on a number line.

3) $4(3x - 2) - 3x < 3(1 + 3x) - 7$

4) $\dfrac{4x-3}{6}+2\geq\dfrac{2x-1}{12}$

5) Write the equation of the line in **standard form** that has a slope of $\dfrac{4}{3}$ and passes through the point (2, 4)

6) Use the points, (-7, -4) and (-3, 6), find:

a) slope of the line that passes through the two points.

b)   Equation of a line in standard form that passes through the two points.

7) Using the equation, $2x - 3y = 5$, find the slope of a line that is perpendicular to the given line.

Graph the solution set on the grid provided. Be sure to label the graphs.

One square = one unit

8) $\begin{cases} x - y \leq 2 \\ x \geq -2 \\ y \leq 3 \end{cases}$