Name:_____

Instructions: Please read and answer each question carefully showing **all** of your work. You must show your work in order to receive credit. You may use as scientific (non-graphing) calculator as needed.

Problem 1: Solve each equation. Decide whether there is one solution, infinitely many solutions, or no solutions.

(a) (2 points) $3x + 2 = 5x - 4$
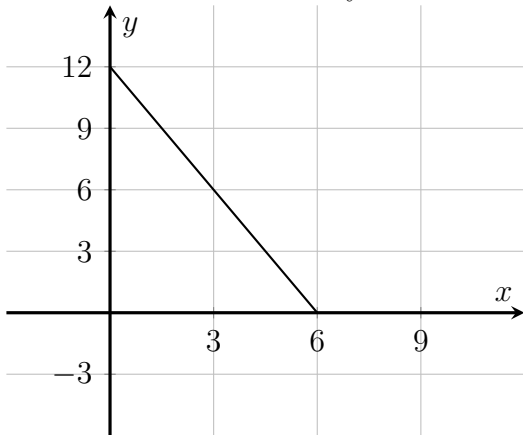
(b) (2 points) $2x - 3 = 3x + 1 - x$

(c) (2 points) $2(x - 2) = 2x - 4$

Problem 2: Solve the following inequalities. Write your solution in interval notation.

(a) (3 points) $-3 \leq 2x + 1 < 5$

(b) (2 points) $-3x \leq -6$

Problem 3: Alex and Andrew took a road trip. Below is the graph of their remaining gallons of gas as a function of x hours after they left.

(a) (2 points)   Find and interpret the $x-$intercerpt?

(b) (2 points)   Find and interpret the $y-$intercept?