

Name:

Problem 1

Consider the line $y = 2x + 2$.

- a) What is the slope of a line perpendicular to $y = 2x + 2$?
- b) In slope intercept form, give the equation of a perpendicular line that goes through the point $(4, -2)$.

Problem 2

Consider the two lines $y = 3x - 1$ and $y = -2x + 2$. Give the coordinates of their intersection.

Problem 3

Our objective will be to solve the following inequality:

$$\frac{(x+1)(x-1)}{(x-3)} > 0$$

- a) Give the key numbers for the expression above.
- b) Use the key number method to solve. Make sure to indicate what numbers you are plugging in.

Problem 4

Give the interval represented by $|x - 5| < 3$.