Name: _____

MATH 101
Spring 2024
HW 14: Due 03/27

"You think you're pretty clever, don't you? I happen to know that every word in your book was published years ago. Perhaps you've read the dictionary!"
— Dick Solomon, Third Rock from the Sun

Problem 1. (10pts) Find the inverse of the linear function $\ell(x) = 6x - 1$. Use this inverse function to solve the equation $\ell(x) = 10$.

Problem 2. (10pts) Explain why the lines $\ell_1(x) = 5x - 1$ and $\ell_2(x) = 2 - 3x$ intersect. Find their point of intersection.

Problem 3. (10pts) Find the x and y-intercept for the line $y = \dfrac{6x - 11}{3}$.

Problem 4. (10pts) Let $\ell(x)$ be the linear function given by $\ell(x) = 5x + c$, where c is some constant. Find the value of c such that $\ell(x)$ contains the point $(5, -4)$. What is the x-intercept of this line?