

Name: _____

MATH 101

Fall 2023

HW 12: Due 11/06

*"If you think education is expensive, try
ignorance."*

–Jeff Rich

Problem 1. (10pt) Consider the linear function $\ell(x) = \frac{13-11x}{5}$.

- (a) Find the slope of this function.
- (b) Find the y -intercept of this function.
- (c) Find the x -intercept of this function.
- (d) Does the graph of this function contain the point $(6, -8)$? Explain.

Problem 2. (10pt) Solve the following equation and verify that your solution is correct:

$$9 - 3(x + 1) = \frac{6 - x}{2}$$

Problem 3. (10pt) Solve the following equation:

$$5\sqrt{2}x + 8 = -3(1 - 2x)$$

Problem 4. (10pt) Find the equation of the line perpendicular to the line $y = \pi$ with x -intercept $\sqrt{2}$.