

Name: _____

MATH 101

Spring 2024

HW 13: Due 03/25

“All right, let’s not just dismiss that out of hand. What about a bomb? In my experience with the Air Force, that was very often the right answer. Very, very often.”

— General Mark R. Naird, Space Force

Problem 1. (10pts) Consider the linear function $\ell(x) = \frac{5x - 7}{-3}$.

- (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 $(2, 0)$? Explain.

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

$$-2(5 - x) + 15 = \frac{8x + 1}{2}$$

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

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

Problem 4. (10pts) Find the x -intercept of the line perpendicular to the line $y = \frac{2}{3}x + 5$ that contains the point $(-1, 6)$.