

Name: _____

MATH 100

Fall 2021

HW 6: Due 10/13

“Good rain knows the best time to fall.”
–VIP, Squid Game

Problem 1. (10pt) Consider the function $\ell(x) = 5x + 2$.

- (a) What is the graph of the function $\ell(x)$.
- (b) Find two points on the graph of $\ell(x)$.
- (c) Is the point $(2, 5)$ on the graph of $\ell(x)$? Explain.
- (d) Is the point $(-1, -3)$ on the graph of $\ell(x)$? Explain.

Problem 2. (10pt) Do the points $(5, 2)$, $(1, -1)$, and $(-3, 4)$ lie along a line? Explain.

Problem 3. (10pt) Consider the line given by the function $\ell(x) = 1 - 3x$.

- (a) Write this line in the form $Ax + By = C$ for some A, B, C .
- (b) What is the slope of this line?
- (c) Find the y -intercept of the line.
- (d) Find the x -intercept of the line.

Problem 4. (10pt) Are the following lines parallel, perpendicular, or neither? Explain.

$$y = 2x - 5$$

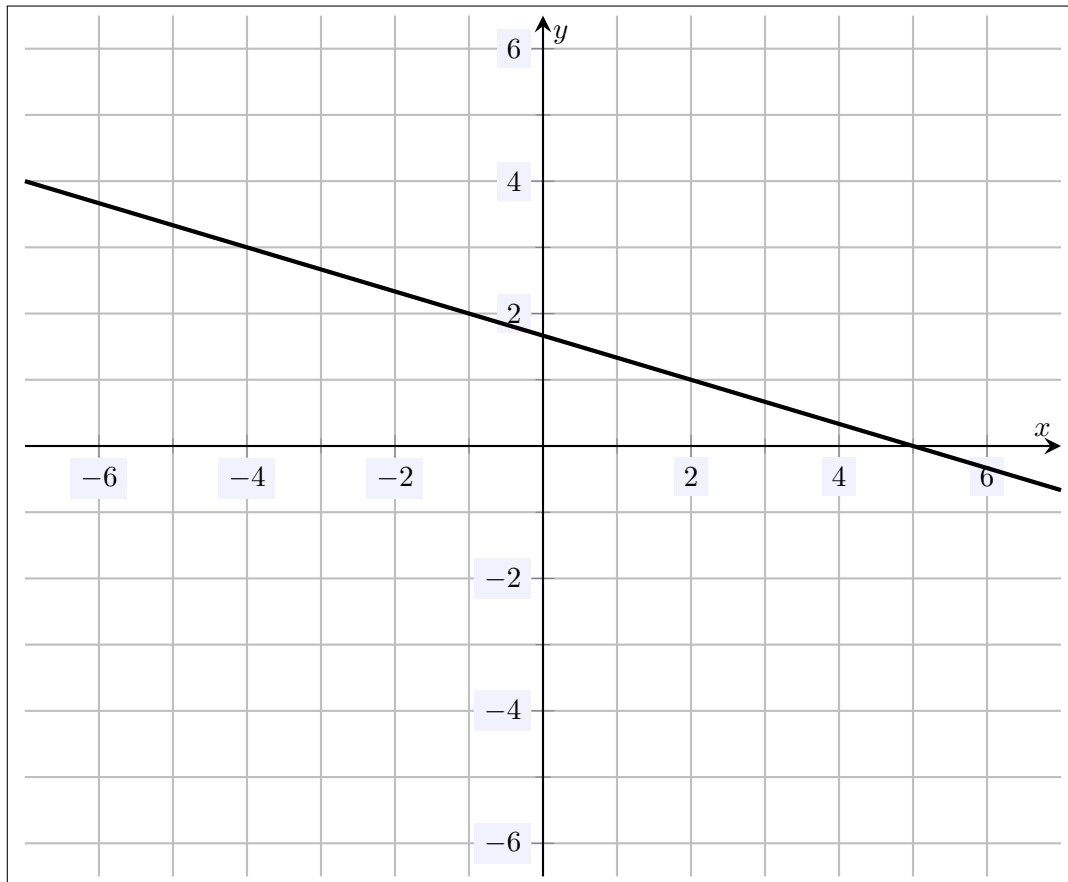
$$2y = 4x - 8$$

Problem 5. (10pt) Are the following lines parallel, perpendicular, or neither? Explain.

$$y = \frac{2}{3}x + 7$$

$$2x + 3y = 5$$

Problem 6. (10pt) Find the equation of the line plotted below.



Problem 7. (10pt) Solve the following equation for y :

$$5x - 3y = 12$$