

Name: \_\_\_\_\_

MATH 101

Fall 2022

HW 17: Due 11/14

*“Geometry is not true, it is  
advantageous.”*

*–Henri Poincaré*

**Problem 1.** (10pt) Explain why the lines  $y = 2(2 - x)$  and  $y = \frac{17}{3}x + 17$  intersect at the point  $(-3, 10)$ .

**Problem 2.** (10pt) Consider the following lines:

$$\ell_1 : y = \frac{2}{3}x + 3$$

$$\ell_2 : y = 14 - 3x$$

Explain why these lines intersect and find their point of intersection.

**Problem 3.** (10pt) Find the point of intersection between the following lines:

$$\ell_1 : y = 4x - 13$$

$$\ell_2 : 5x + 4y = -10$$