

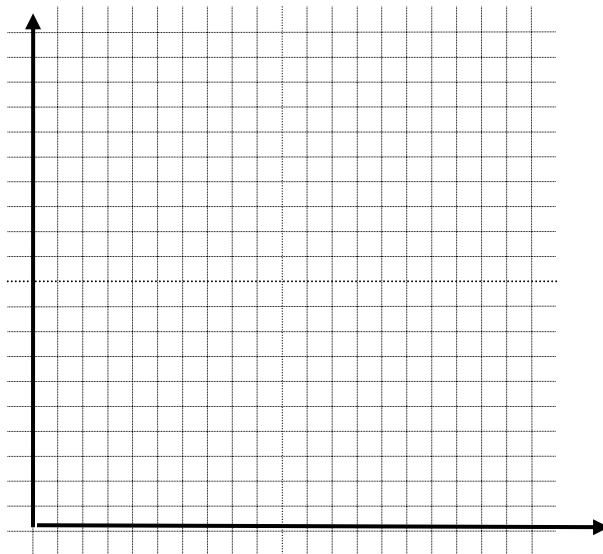
PROBLEM-OF-THE-DAY: ALGEBRA 1
WEEK: January 8 to January 11 **DAY:** Friday

RISD Objective: Given two points in the coordinate plane, students will be able to determine the coordinates of the midpoint of the segment connecting the points, the slope of the line that passes through the points, and the distance between the points.

PROBLEM #81

A duck flies up from a lake at a slope of $\frac{2}{5}$ to a height of 50 feet.

How many horizontal feet across the lake will the duck fly by the time it is 50 feet high. You may use the grid below to help find the answer.



MODEL SOLUTION #81

I will use the slope definition:

$$\text{Slope} = \frac{\text{rise}}{\text{run}}$$

Then use a proportion to find the missing height.

$$\text{Slope} = \frac{\text{rise}}{\text{run}} = \frac{2}{5} = \frac{50}{H}$$

Cross multiply: $2H = 250$

Divide by 2 $H = 125$ feet

So, the duck flies 125 feet horizontally to reach a height 50 feet.