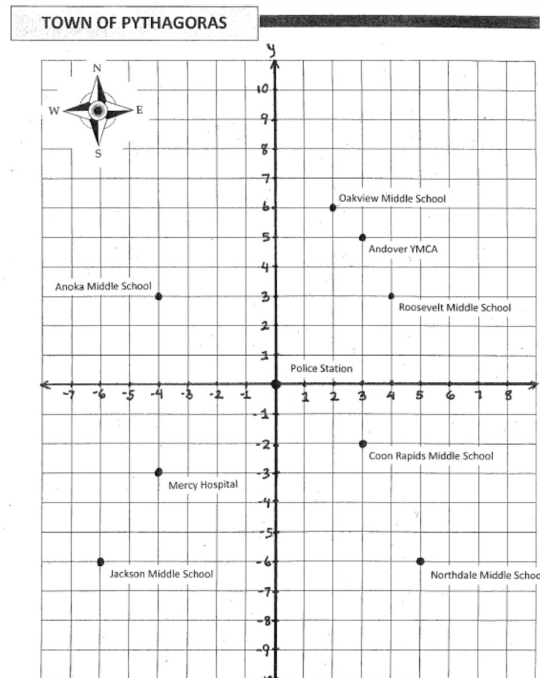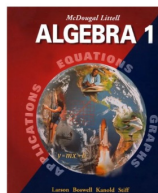# MS Algebra: 2.6.1

Warm-up

Hand back quizzes

Goal: I can identify properties of linear functions including slope and intercepts.

HW: pg. 230 #16-25, 35-37

McDougal Littell
ALGEBRA 1
EQUATIONS
APPLICATIONS
GRAPHS
Larson Boswell Kanold Stiff

TI-34 MultiView
TEXAS INSTRUMENTS

TOWN OF PYTHAGORAS

Town of Pythagoras

Use the map of the Town of Pythagoras to complete this activity: In the Town of Pythagoras, the emergency dispatcher gives helicopter directions from one landmark to another by naming the slope between the two landmarks. You will recall that the slope between two points can be found by <u>the ratio of the rise to the run</u>. In the Town of Pythagoras, the rise can be thought of the number of north/south blocks between the two landmarks, and the run can be thought of as the number of east/west blocks between the two landmarks. **ALERT! When the line between two landmarks slants downward from left to right, the slope is negative.**

1) You are now the emergency dispatcher in the Town of Pythagoras. Give both the driving directions and the helicopter directions (slope) for flights between the following landmarks:

    a. Anoka Middle School, to Oakview Middle School,

       <u>Driving Directions:</u>
       Number of north/south blocks **3N**

       Number of east/west blocks **6E**

       <u>Helicopter Directions:</u> Simplify your answer. $\frac{3}{6} = \frac{1}{2}$
       (north/south blocks to east/west blocks) Is the slope (positive) or negative??

b. Anoka Middle School, to the Police Station,

    <u>Driving Directions:</u>
    Number of north/south blocks **3 S**

    Number of east/west blocks **4 E**

    <u>Helicopter Directions:</u> Simplify your answer. $-\frac{3}{4}$
    (north/south blocks to east/west blocks) Is the slope positive or (negative?)

c. Coon Rapids Middle School, to Northdale Middle School,

    <u>Driving Directions:</u>
    Number of north/south blocks **4 S**

    Number of east/west blocks **2 E**

    <u>Helicopter Directions:</u> Simplify your answer. $-\frac{4}{2} = -\frac{2}{1}$
    (north/south blocks to east/west blocks) Is the slope positive or (negative?)

d. **Jackson Middle School** $(-6, -6)$ **and Northdale Middle School** $(5, -6)$.

Driving Directions:
Number of north/south blocks **0 N**

Number of east/west blocks **11 E**

Helicopter Directions: Simplify your answer.
$\frac{rise}{run}$ (north/south blocks to east/west blocks) **0**   Is the slope positive or negative??
neither

e. **Coon Rapids Middle School** (3, -2)   **and Andover YMCA** (3, 5)

Driving Directions:
Number of north/south blocks **7 N**

Number of east/west blocks **0 E**

Helicopter Directions: Simplify your answer.
$\frac{rise}{run}$ (north/south blocks to east/west blocks) **error =**   Is the slope positive or negative??
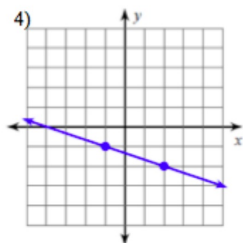**undefined**   **neither**

2) The skateboard park is located at $(2, 3)$. Give the helicopter directions (slope) for flying and injured person from the skateboard park to Mercy Hospital. Show all work and simplify your answer!
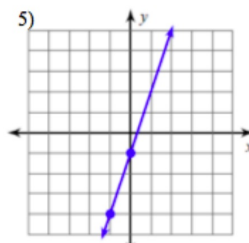
6 S, 6 W $\dfrac{6}{6} = \dfrac{1}{1}$

3) The arcade is located outside of the Town of Pythagoras at $(10, 5)$. Give the helicopter directions (slope) for flying from Roosevelt Middle School to $(4, 3)$ to the arcade. Show all work and simplify your answer!
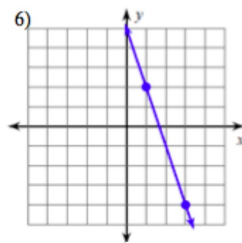
2 N, 6 E $\dfrac{2}{6} = \dfrac{1}{3}$

Find the slope of each line graphed. Show all work and simplify your answer.

4)

slope = $-\dfrac{1}{3}$

5)

slope= $\dfrac{3}{1}$

6)

slope = $-\dfrac{6}{2} = -\dfrac{3}{1}$