Review

Name Key
Date _____ Period ____

Write the slope formula below:

Slope formula = $\frac{y_2 - y_1}{x_2 - x_1}$

Finding slope using two points:

1.) (3, -1), (4, -3)

$\frac{-3-(-1)}{4-3} = \frac{-2}{1}$

2.) (-3, -5), (4, -5)

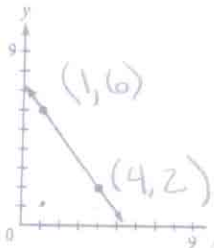
$\frac{-5-(-5)}{4-(-3)} = \frac{0}{7}$

3.) (-4,-5), (4, 1)

$\frac{1-(-5)}{4-(-4)} = \frac{6}{8} = \frac{3}{4}$

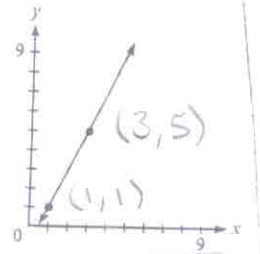
Finding slope using a graph:

1.)



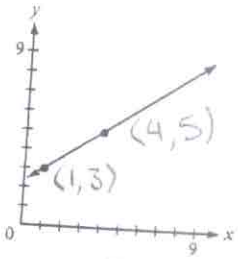
$\frac{6-2}{1-4} = \frac{4}{-3} = \frac{-4}{3}$

2.)



$\frac{5-1}{3-1} = \frac{4}{2}$

3.)



$\frac{5-3}{4-1} = \frac{2}{3}$

Using slope to determine whether points land on the same line:
Do the points lie on the same line?
Sample: A(1, 3), B (4, 2), C(-2, 4)

Slope AB = $\frac{2-3}{4-1} = \frac{-1}{3}$ Slope BC = $\frac{4-2}{-2-4} = \frac{2}{-6}$ *(be sure to reduce)* = $\frac{-1}{3}$

Lines AB and BC have the same slope. So, the points lie on the same line.

1. A(3, 5), B(6, 5), C(7, 5)

$AB = \frac{5-5}{6-3} = \frac{0}{3} = 0$ $BC = \frac{5-5}{7-6} = \frac{0}{1} = 0$

They have the same slope of zero, so they are linear.

2. P(1, 3), Q(3, -1), R(0, 5)

$PQ = \frac{-1-3}{3-1} = \frac{-4}{2} = -2$ $QR = \frac{5-(-1)}{0-3} = \frac{6}{-3} = -2$

They have the same slope of -2, so they are linear.

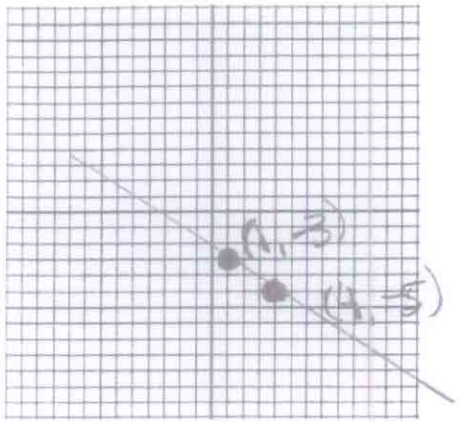
3. P(-4, -5), Q(0, -2), R(4, 5)

$PQ = \frac{-2-(-5)}{0-(-4)} = \frac{3}{4}$ $QR = \frac{5-(-2)}{4-0} = \frac{7}{4}$

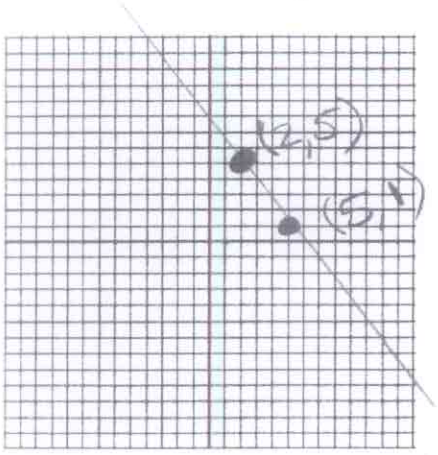
They do not have the same slope, so they are <u>not</u> linear.

Finding a line on a graph using the given point and the given slope.

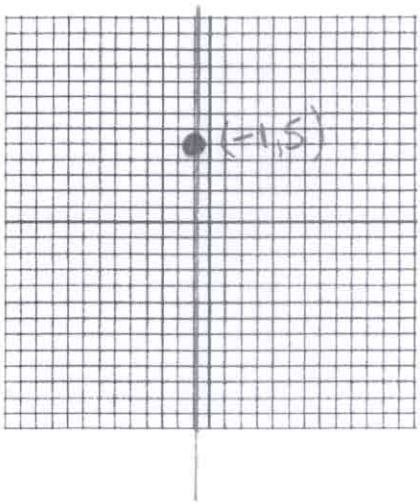
1.) (1, -3); Slope = $-\frac{2}{3}$



2.) (2, 5); Slope = $-\frac{4}{3}$



3.) (-1, 5); Slope = Undefined



Write the slope-intercept equation below:

$y = a + bx$

Where b = Slope and a = y-intercept

Find the slope and the Find the slope and the *y* – intercept of each equation:

1.) $y = -5 - \frac{3}{4}x$

$y = a + bx$

Slope = $-3/4$

y-int. = -5

2.) $3x - 9 = y$

Slope = 3

y-int. = -9

3.) $2x = y + 7$

$-7 \quad -7$

$2x - 7 = y$

Slope = 2

y-int. = -7