Slope-Intercept
Teacher Notes

Prerequisite Knowledge: Finding the slope between two points, solving literal equations, graphing using a point and the slope.

Objective: Students will see the relationship between the slope-intercept form of an equation, and the graph.

Warm Up:

1. Find the slope between the following pairs of points (0, 3) and (2, -4); (-1, -2) and (-3, -6)

2. Solve the following equation for y: $3x - 2y = 8$

Procedure: In pairs, students will graph a variety of equations and using the graph they will find the y-intercept, and another point of the line. Students will then find the slope of the line. By answering the questions and participating in a class discussion they will see the relationship between the graph and the equation.

Materials Needed: Students will need an activity sheet and a graphing calculator.

Name _____

Algebra 1
Graphing Linear Equations

For the following equations:

1. Solve each equation for y if it is in standard form.
2. Then both partners will graph the equation with their calculator.
3. Use **Trace** to find the y-intercept.
4. Use **Trace** to find another point on the line.

(For steps 3 and 4 it will help to use **zoom decimal**, or if needed **zoom decimal**, then **zoom integer** then **enter**.)

5. Using the two points find the slope of the line.

1. $y = -\frac{3}{2}x - 1$

y-intercept _____

Point _____

Slope _____

2. $y = -\frac{1}{2} + 3$

y-intercept _____

Point _____

Slope _____

3. $y = 2x - 2$

y-intercept _____

Point _____

Slope _____

4. $4x-3y=15$

y-intercept _____

Point _____

Slope _____

5. $-7x+2y=-8$

y-intercept _____

Point _____

Slope _____

Questions:

1. Do you notice anything about the equation when it is solved for y? What do you see?

2. Could you graph an equation without finding the intercepts or making a table? Describe the process.

Practice:

Find the slope and y-intercept of each equation.

1. $y=-\frac{3}{4}x-2$

2. $x-3y=9$

3. $-2x-6y=-18$

4. $-\frac{1}{4}x+\frac{1}{2}y=-2$

5. $7x-3y=12$