**Objectives: Students will be able to create and graph linear functions in all three forms:**

**y- intercept, point slope and standard form. Students will be able to create functions parallel or perpendicular to some given lines.**

Standards:

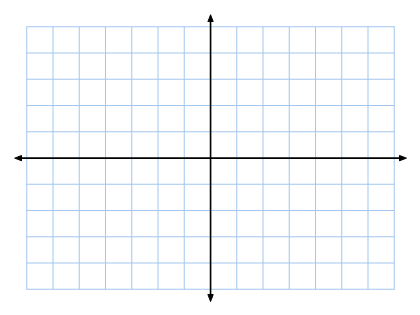
[A2.F.BF.A.1](http://www.tennessee.gov/assets/entities/education/attachments/std_math_algebra_II.pdf) Write a function that describes a relationship between two quantities.

[A2.F.BF.A.1a](http://www.tennessee.gov/assets/entities/education/attachments/std_math_algebra_II.pdf) Determine an explicit expression, a recursive process, or steps for calculation from a context.

[A2.F.BF.A.1b](http://www.tennessee.gov/assets/entities/education/attachments/std_math_algebra_II.pdf) Combine standard function types using arithmetic operations.

**2-4 More Linear Functions**

**Warm up**

**Graph a function -2x + 3y = 6. Write it in y-intercept form then graph.**

**Vocabulary**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** - the slopes of these lines are **equal.**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** - the slopes of these lines are **negative reciprocals** of each other.

Examples of negative reciprocals : 1/3 🡪 \_\_\_\_\_ -2/3 🡪 \_\_\_\_\_\_ -1 🡪 \_\_\_\_\_\_ 5 🡪 \_\_\_\_\_\_

**Formulas**

* point-slope form of a line is
* standard form of a linear equation is
* m =, *y*-intercept = , *x*-intercept =

**Examples**

1. Write the equation of the line that passes through (-6, 2) with a slope of .

a) y-intercept form b) point slope form c) standard form

1. Write the equation of the line through (-3, 2) and (5, 8).

a) y-intercept form b) point slope form c) standard form

1. Write the equation in standard form. Use **integer** coefficients.
2. What is the equation of the line in point-slope form?
3. Find the x- and y-intercepts of .
4. What is the equation of the line **parallel** to through (1, -3) in slope-intercept form?
5. What is the equation of the line **perpendicular** to through (-2, 4) in slope-intercept form?

**HOMEWORK!!! Complete your assignment on a separate sheet of paper. Show all Work**

1. Write an equation for each line in slope-intercept form
2. slope = -3, through (1, -4) **b**. slope = , through (2, 3)
3. What are the intercepts of ? Graph the equation.
4. If the intercepts of a line are (*a*, 0) and (0, *b*), what is the slope of the line?
5. Write the equation of the line through (1, 9) and (6, 2) in point-slope form?
6. Write an equation of each line in standard form with integer coefficients.
7. b.
8. Write an equation for the line shown in standard form.