

Algebra 1
2-3 Standard Form

Name _____

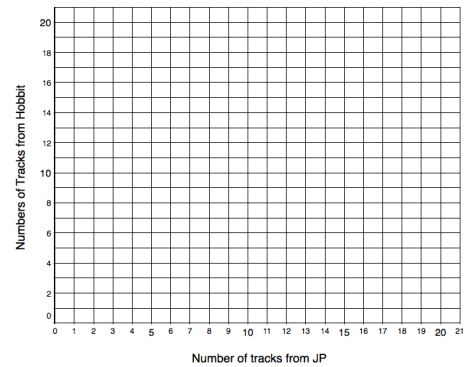
Date _____ **A#7**



Goal:

I. Warm Up: Josiah wants to make a playlist with 20 songs. He will select tracks from *The Hobbit* and *Jurassic Park* soundtracks.

- a. Determine two different combinations of tracks from each soundtrack.
- b. Plot the two options, then extend the line through the points.
- c. Can you use the line to find other meaningful points? Are there any inconsistencies with the graph compared to real life?



II. Review:

Slope-Intercept Form	Vertical line	Horizontal Line	Point-slope form

III. Standard Form and Uses

Standard Form

A high school football team scores a total of 42 points by scoring touchdowns and field goals. Suppose each field goal is worth 3 points and each touchdown is worth 7 points.

a. Let x represent the number of field goals and y represent the number of touchdowns. Write an equation that models the total points scored in the game.

b. Identify and interpret the x - and y -intercepts.

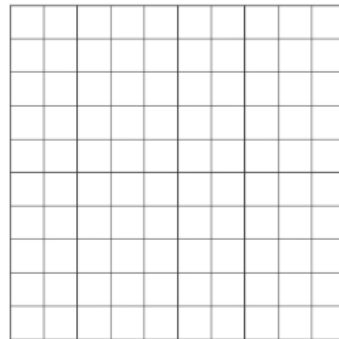
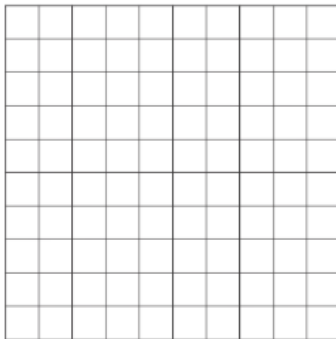
Try-It! You are running for class president. You have \$30 to spend on publicity. It costs \$2 to make a campaign button and \$1 to make a poster. Write an equation that represents the different numbers of buttons, x , and posters, y , you could make. What do the intercepts mean in context?

IV. Graphing Using Standard Form: Graph the line that represents each linear equation.



Ex: $-5x + y = -10$

Try It! $-3x - 6y = 12$

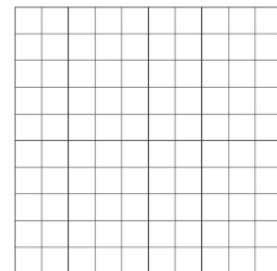
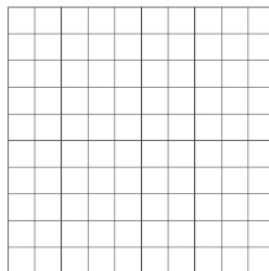
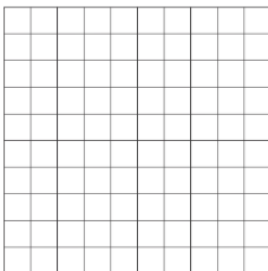


V. Relate Standard Form to Horizontal & Vertical Lines: Graph the line that represents each linear equation.

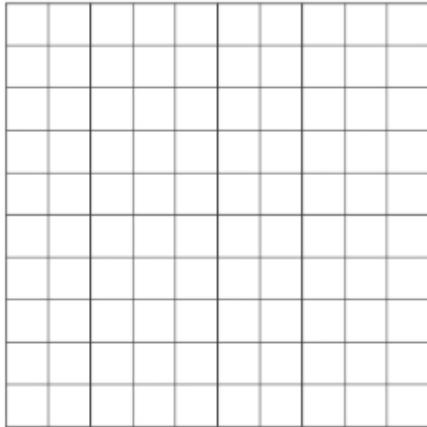
Ex: $5x = 15$

Try It! a. $-4y = -20$

b. $6x = -24$



VI. Application Your grandmother made 240 oz of jelly. You have two types of jars. The first holds 10 oz and the second holds 12 oz. Write an equation that represents the different numbers of 10-oz jars, x , and 12-oz jars, y , that will hold all of the jelly. Then graph the equation and give 4 combinations of possibilities.



Try It! You are in charge of buying the hamburger and boned chicken for a party. You have \$60 to spend. The hamburger costs \$2 per pound and boned chicken is \$3 per pound. Write an equation in standard form that represents the different # of pounds of hamburger, x , and chicken, y , that you can buy. Then graph the equation and give 4 combinations of possibilities.

