

NAME: _____

UNIT 3 • LINEAR AND EXPONENTIAL FUNCTIONS

Lesson 4: Analyzing Linear and Exponential Functions

Problem-Based Task 3.4.1: Fund-raising Concert

You are helping to organize a fund-raising concert for your community awareness group. You will sell tickets in advance of the concert for \$20 each and for \$30 each on the day of the show. Your club has a goal to raise \$6,000. Write the function to represent this scenario in standard form. Draw the graph of the function to represent how many of each type of ticket you will need to sell. If you sell only tickets in advance, how many tickets do you need to sell? Where do you find this on your graph? If you sell only tickets on the day of the show, how many tickets do you need to sell? Where do you find this on your graph?

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Coaching

- a. What is the price of each ticket sold in advance?
- b. Write an expression to represent the total amount of money made from selling advance tickets.
- c. What is the price of each ticket sold the day of the show?
- d. Write an expression to represent the total amount of money made from selling tickets the day of the show.
- e. What is the amount your club needs to raise?
- f. Write an equation in standard form to represent how many of each type of ticket you need to sell to reach your club's goal.
- g. Find the x -intercept.
- h. Find the y -intercept.
- i. Plot the two intercepts.
- j. Draw a line connecting the two points.
- k. Determine the number of tickets that need to be sold if only advance tickets are sold.
- l. Determine the number of tickets that need to be sold if only same-day tickets are sold.
- m. Where are these points located on the graph?