

## System of Equations

Name \_\_\_\_\_

1. Remember the tuition problem where you paid \$200 per credit plus fees of \$350.
  - a. Consider the linear equation that gives the amount spent in terms of the number of credits taken.

What should the independent variable represent?

What should the dependent variable represent?

Write the linear equation that gives the amount spent in terms of the number of credits taken.

What is the slope? Write a sentence interpreting the meaning of the slope.

What is the y-intercept? Write a sentence interpreting the meaning of the y-intercept.

- b. Let's say you only have \$3200 to spend for tuition and fees. How many credits can you take?

- c. Now let's look at this graphically.

Click on this address or copy this web address into your internet browser:

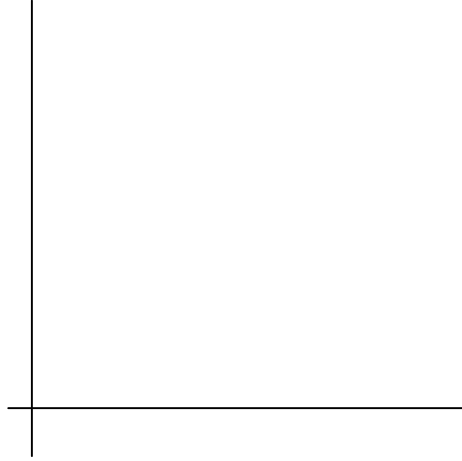
[http://my.hrw.com/math06\\_07/nsmedia/tools/Graph\\_Calculator/graphCalc.html](http://my.hrw.com/math06_07/nsmedia/tools/Graph_Calculator/graphCalc.html)

Be sure Equations is selected. Let  $y_1 = 3200$  and  $y_2 = 200x + 350$

Select Settings. Input appropriate values

Press: Graph

Draw a rough sketch of what you see below.



- d. To find where  $3200 = 200x + 350$  graphically:  
(1) Select: Intersection, (2) Click in each box by the equations and then (3) Press: Find Intersection Point(s).

What do you get?

Interpret what this means?

How does this compare to the result you found algebraically?

- e. How many credits can you take if you want to spend at most \$3200? How would you solve this algebraically?
- f. How would you solve part e graphically?
- g. What if you knew you wanted to take 16 credits? What would your graph look like? (You'll have to sketch this by hand.)