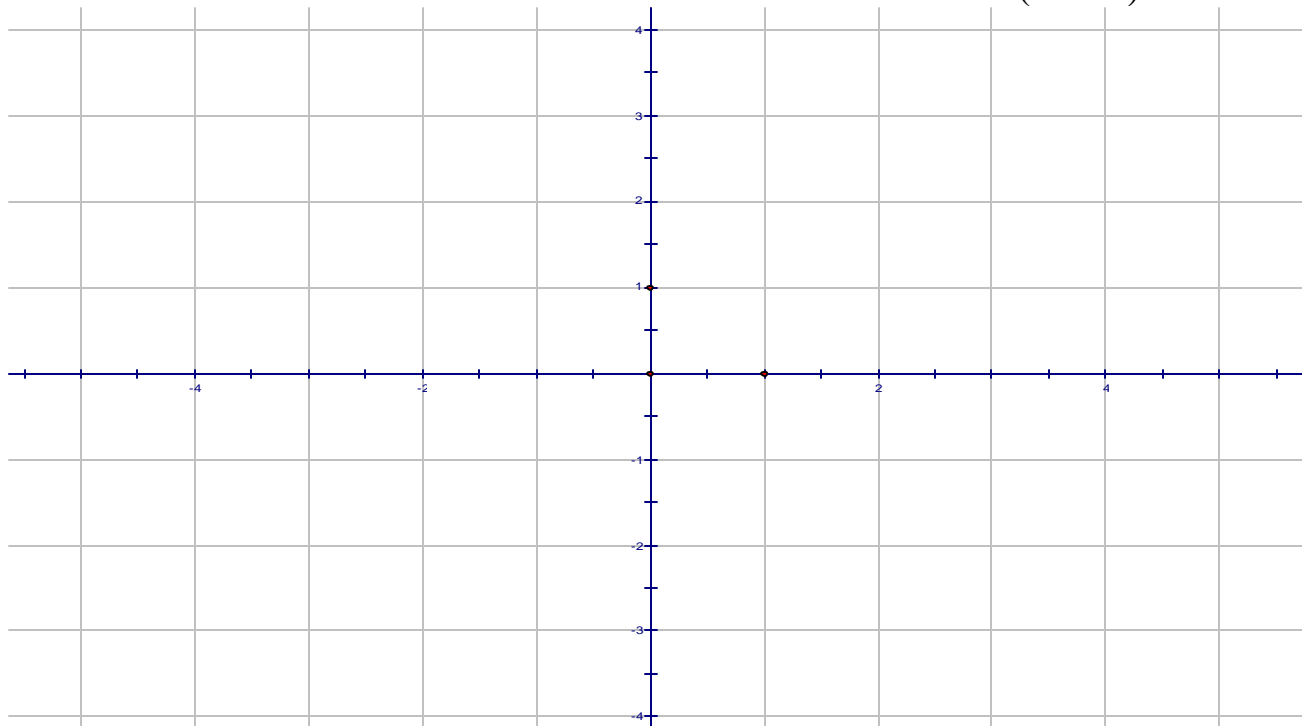


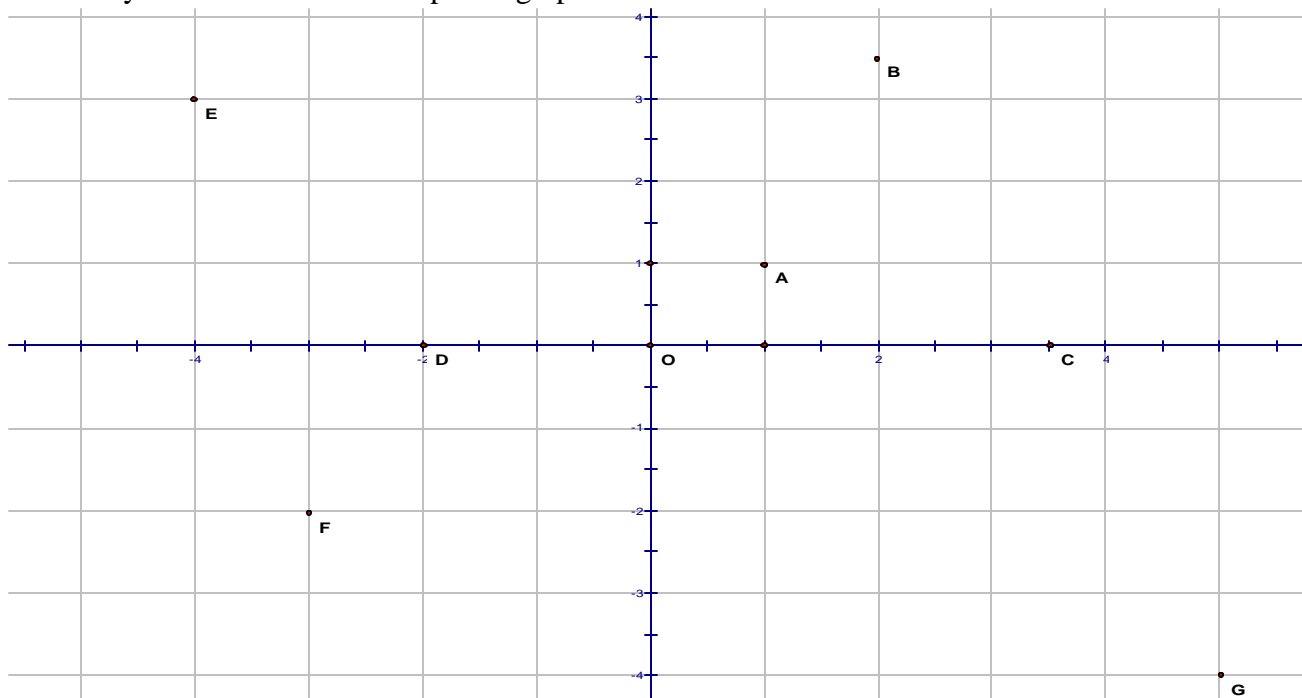
**In class work:** Complete all statements. Solve all exercises.

### 3.1 The Rectangular Coordinate System. Reading Graphs

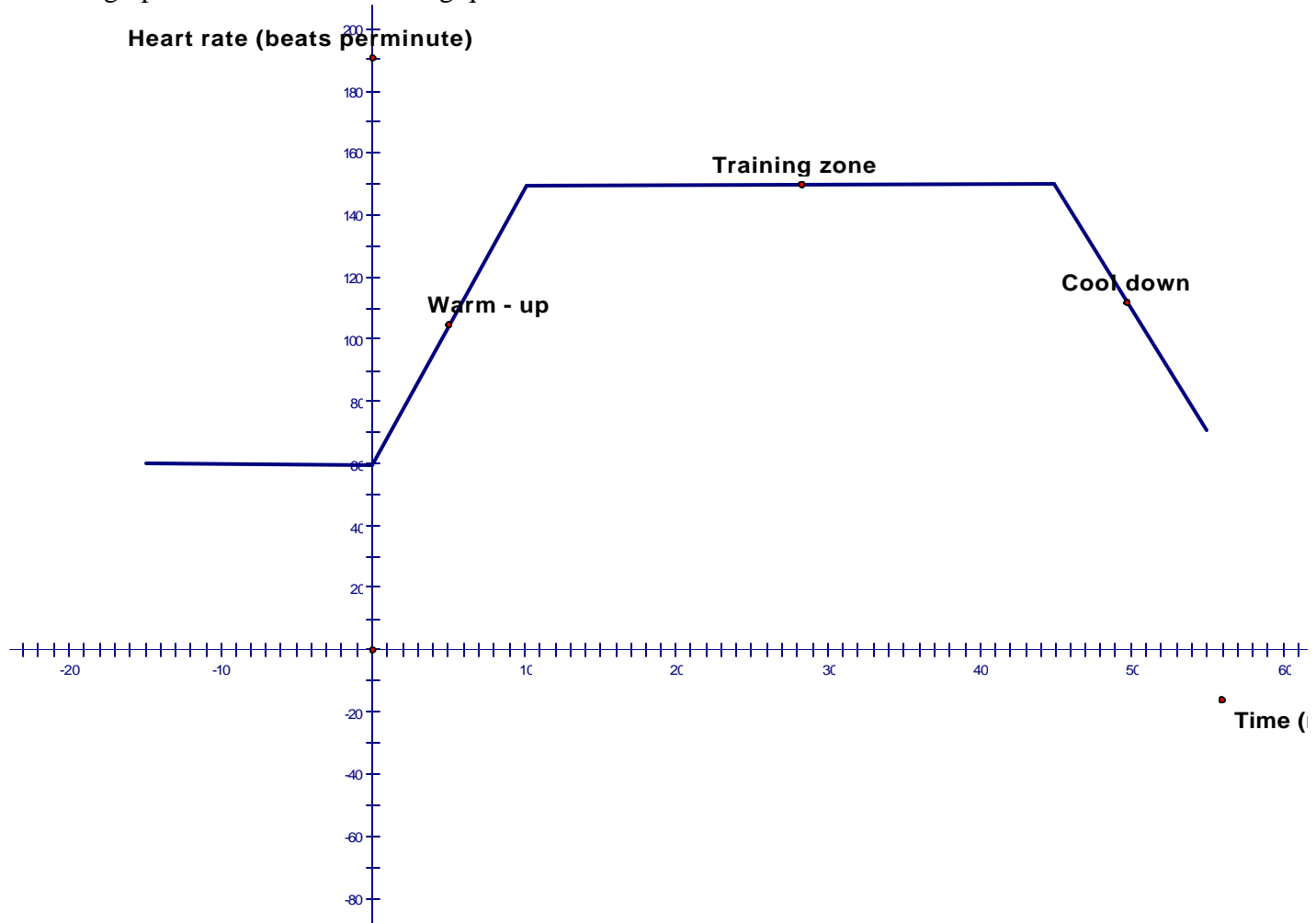
1. Graph the following points:  $A(5,1)$ ,  $B(2.5,0)$ ,  $C(0,1)$ ,  $D(-2,2)$ ,  $E(-1,0)$ ,  $F\left(-3,-\frac{3}{2}\right)$ ,  $G(0,-2)$ ,  $H(3,-4)$



2. Identify the coordinates of the points graphed below:



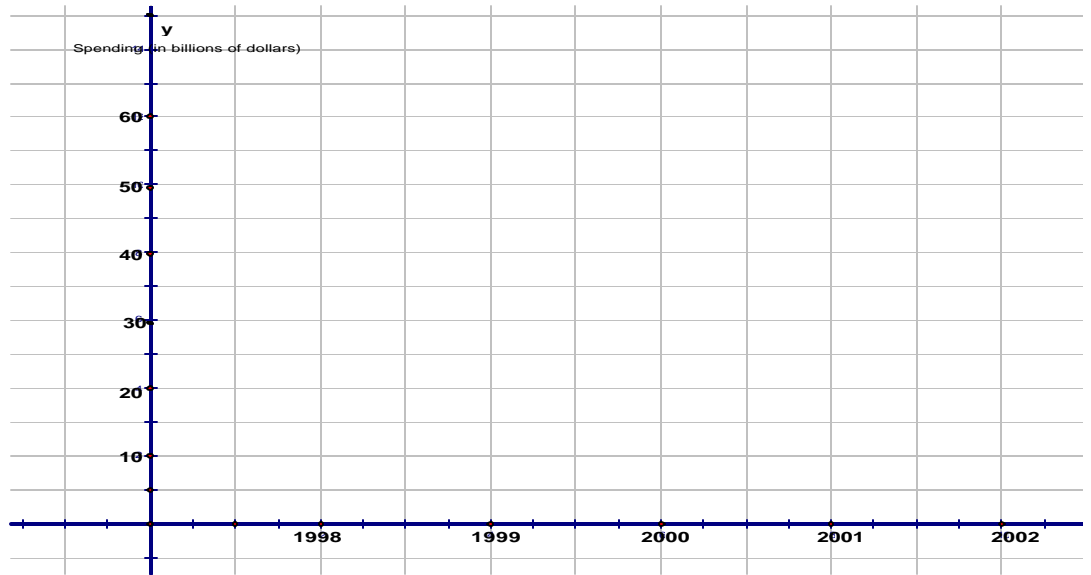
3. Read the graph. The graph gives the heart rate of a woman before, during, and after an aerobic workout. Use the graph to answer the following questions:



- What information does the point  $(-10, 60)$  give us?
- After beginning the workout, how long did it take the woman to reach her training-zone heart rate?
- What was her heart rate one-half hour after beginning the workout?
- For how long did she work out the training zone level?
- At what times was her heart rate 100 beats per minute?
- How long was her cool-down period?
- What was the difference in her heart rate before the workout and after the cool-down period?
- What was her approximate heart rate 8 minutes after beginning?

3. The table shows on-line retail spending in billions of dollars.

Year	Spending (in billions)
1998	7.8
1999	14.9
2000	23.1
2001	34.6
2002	53.0



a) Write the data from the table as ordered pairs

$(x,y)$ , where  $x$  represents the \_\_\_\_\_ and  $y$  represents \_\_\_\_\_.

b) What does the ordered pair  $(2003, 78.0)$  mean in the context of this problem?

c) Make a scatter diagram of the data using the ordered pairs from part (a) and the given grid.

d) Describe the pattern indicated by the points on the scatter diagram. What is the trend in the on-line spending?

4. Complete the following ordered pairs to make solutions to the equation  $x + 2y = 8$ :

 $(0, ?)$  $(?, 0)$  $(-\frac{4}{3}, ?)$ 

5. Complete the table for the equation  $y = \frac{2}{3}x$ :

$x$	$y$
0	
	2
-1	
	$\frac{3}{2}$

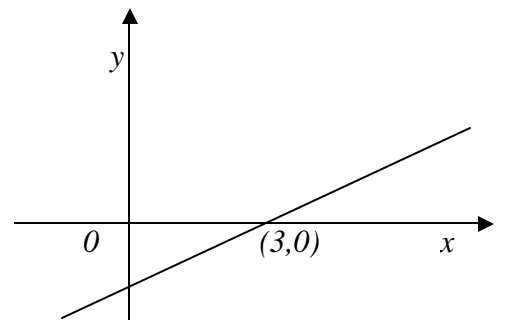
6. Find three solutions to the equation  $2x - 4y = -5$ .

### 3.2 Graphing Linear Equations in Two Variables

7. The graph of  $2x - 3y = 6$  is given .

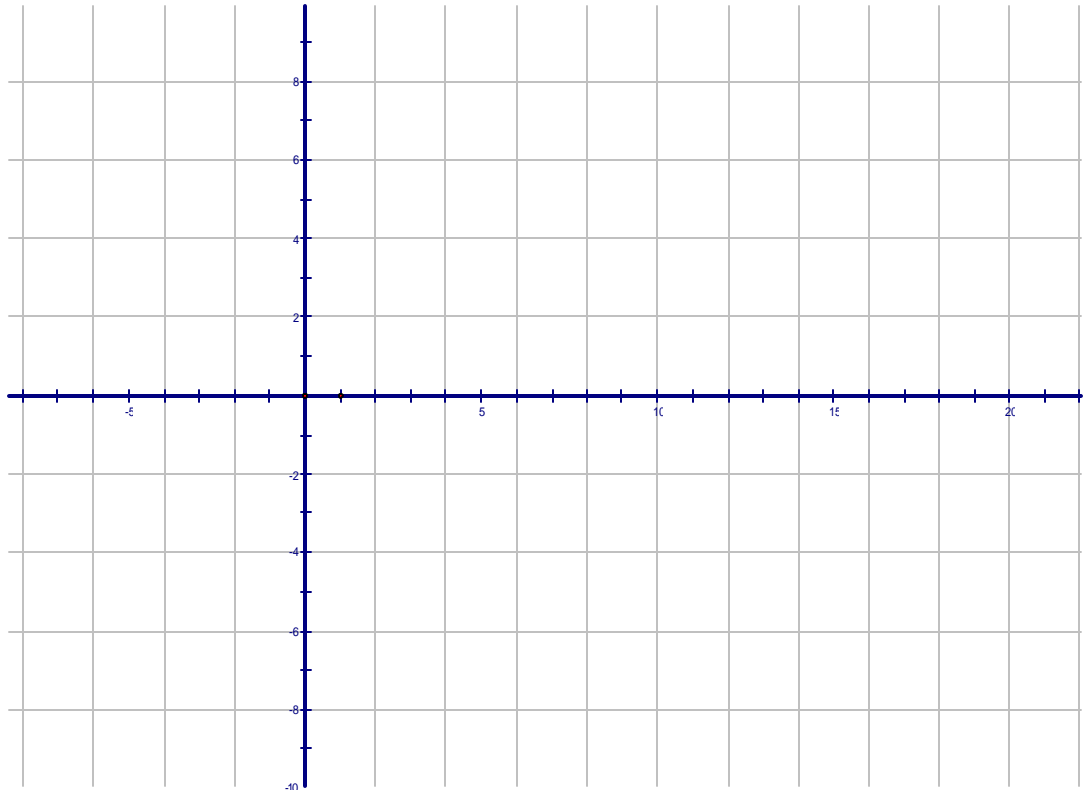
- Is  $(0, 0)$  a solution?
- Is  $(3, 0)$  a solution?
- Is  $(-2, 1)$  a solution?

Prove algebraically and graphically.

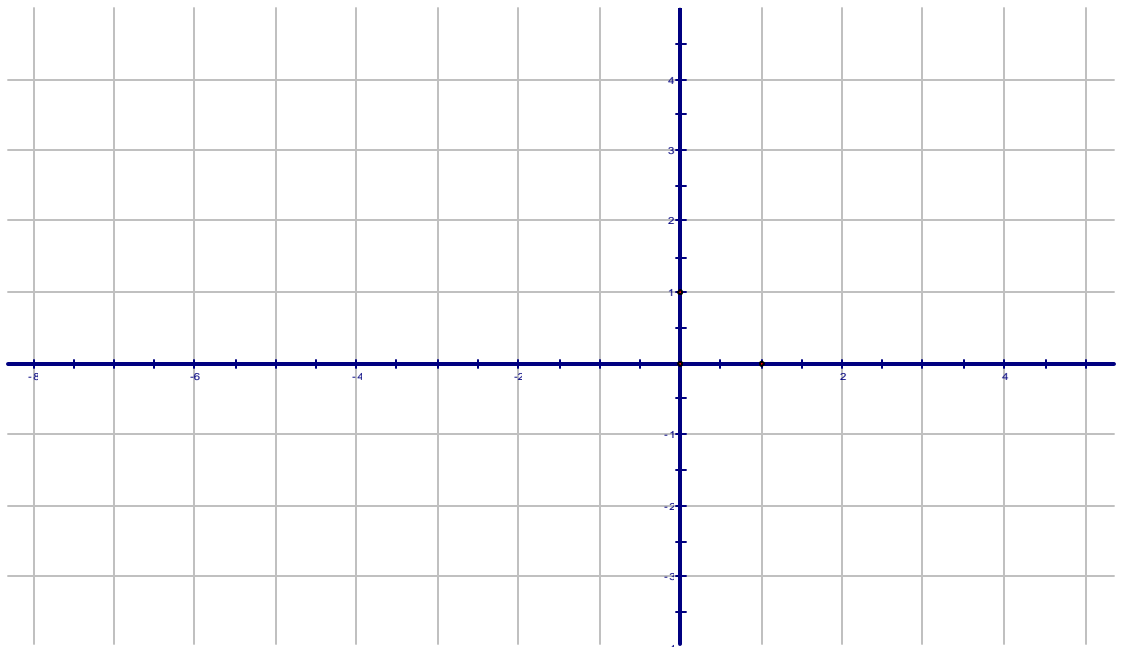


8. Graph the following equations by the intercept method.

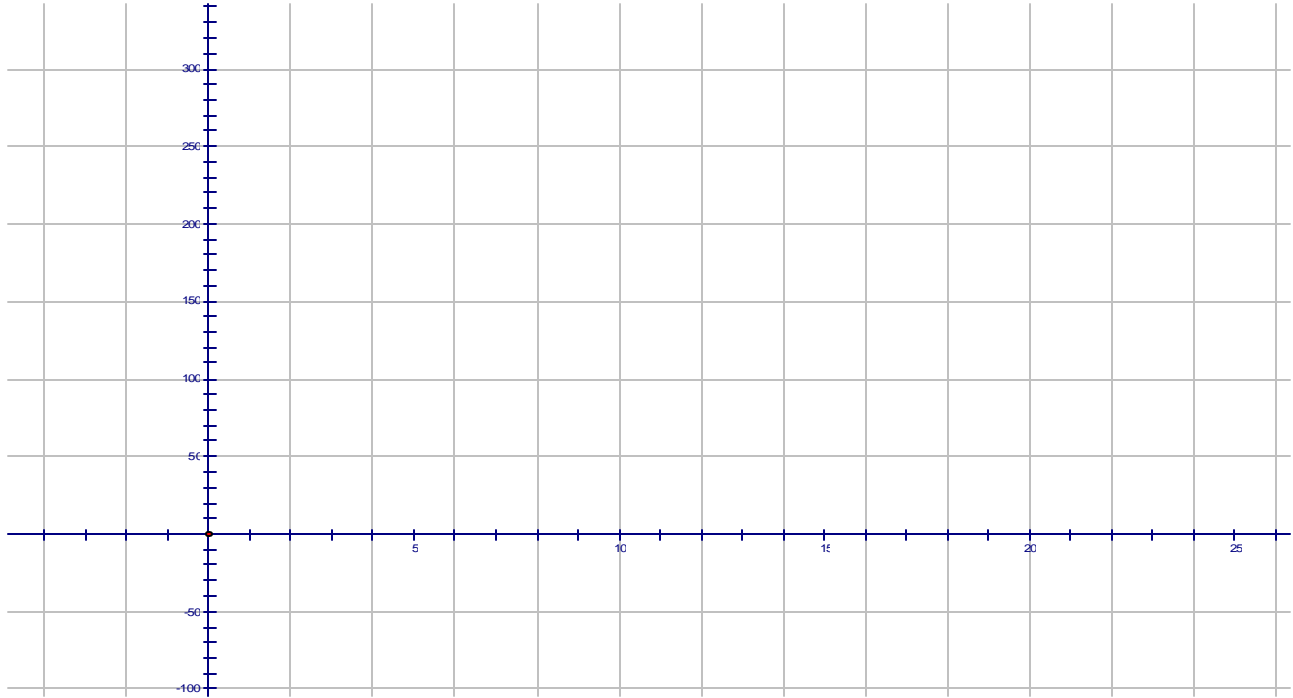
a)  $2x - 3y = 24$



b)  $-\frac{1}{2}x + \frac{5}{3}y = \frac{7}{2}$



9. An equation for the concentration of toxic chemicals is  $C = 285 - 15t$ , where  $C$  is the concentration in part per milliliter (ppm), and  $t$  is the number of years from now.
- Find the intercepts of the graph and graph the equation using the intercepts.
  - What is the significance of the intercepts ?
  - What does the ordered pair  $(2, 255)$  mean in the context of the problem?



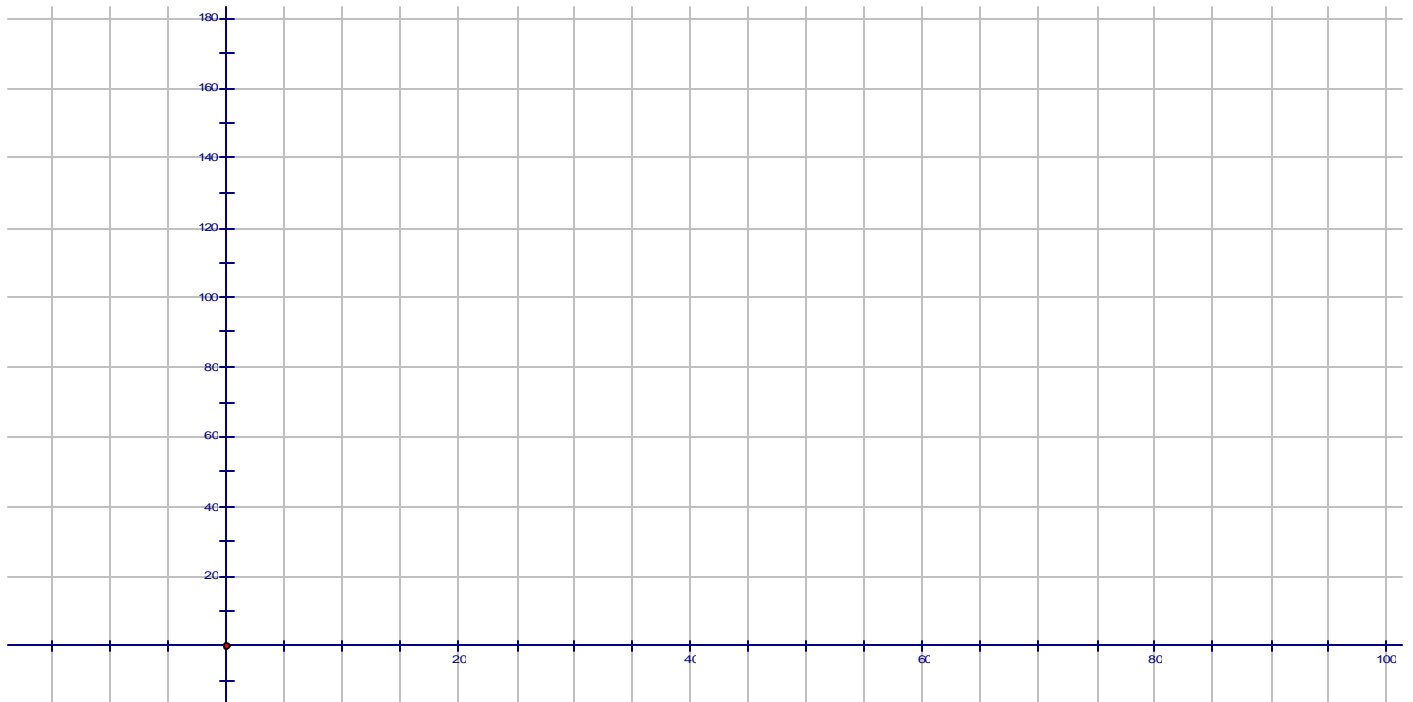
10. (3.2 - #63) The weight  $w$  (in pounds) of a man taller than 60 in. can be roughly approximated by the linear equation

$$w = 5.5h - 220,$$

where  $h$  is the height of the man in inches.

a) Find the weights of men whose heights are 62 in and 72 in.

b) Graph the equation using the data from part (a).



c) Use the graph to estimate the height of a man who weighs 155 lbs. Then use the equation to find the height of this man to the nearest inch.

11. (3.2 - #66) The graph shows the value of a certain sport vehicle over the first 5 years of ownership. Use the graph to do the following:

- Determine the initial value of the SUV.
- Find the depreciation (loss in value) from the original value after the first 3 years.
- What is the annual or yearly depreciation in each of the first 5 years?
- What does the ordered pair (5, 5000) mean in the context of this problem?

