

(For use after Chapter 8)

Interpreting information

1. Consider the line $x - 2y = 2$.

a. Find the slope. What does this number tell you about the line?

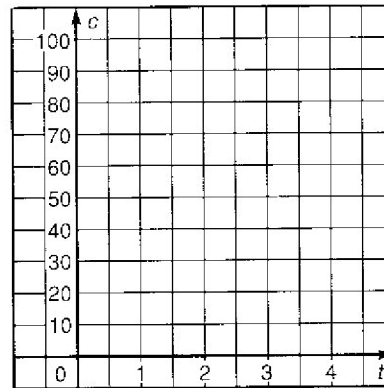
b. Find the y-intercept. What does this number tell you about the line?

Applying concepts

2. Suppose a repairman charges a service-call fee of \$40 for coming to your home and an hourly fee of \$15 for the work that he does. What is the total charge if the repair takes:

a. 1 hour? _____ b. 2 hours? _____ c. 3 hours? _____

3. Let t = the repair time, and let c = the total charge. Using your answers to Exercise 2, form ordered pairs (t, c) and plot them on the axes at the right. The three points should all lie on a single line. Draw the line.



4. a. Find an equation in slope-intercept form of the line in Exercise 3. _____

b. What do you notice about the slope and y-intercept of the line?

5. Suppose a second repairman charges a service-call fee of \$30 and an hourly fee of \$20. Based on the results of Exercise 4, write an equation relating repair time t and total charge c for the second repairman. _____

6. Using the axes provided for Exercise 3, graph the equation from Exercise 5. (To distinguish the lines, label the original one "Repairman 1" and the new one "Repairman 2.")

Analysis

7. Look at your graph of time versus charge for the two repairmen. For each of the following amounts of time, which repairman would you call if you thought the repair would take that long? How does the graph support your answer?

a. 1 hour: _____

b. 2 hours: _____

c. 3 hours: _____