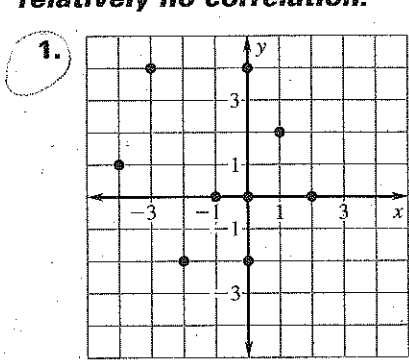
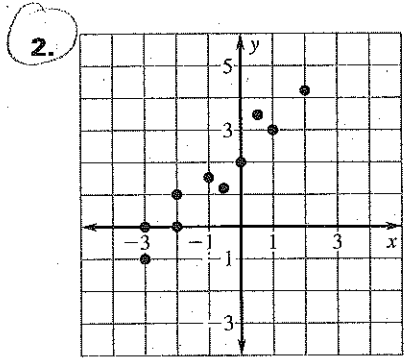


LESSON 5.6 Practice
For use with pages 325–333

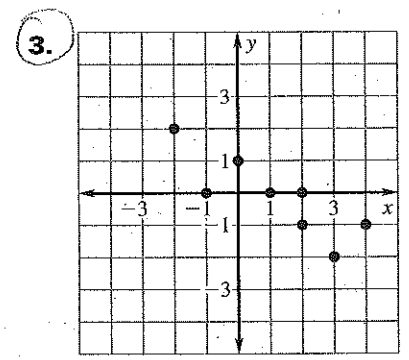
Tell whether x and y show a **positive correlation**, a **negative correlation**, or **relatively no correlation**.



no correlation



positive correlation

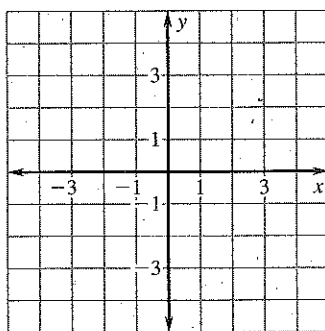


negative correlation

Make a scatter plot of the data. Draw a line of fit. Write an equation for the line.

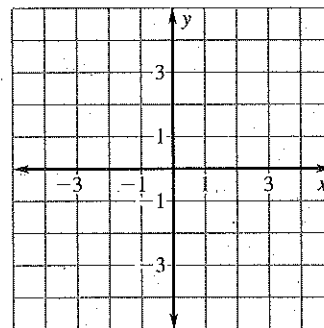
4.

x	-2	-1	0	1	2	3
y	4	2	1	-2	-1	-2



5.

x	0	0	0.5	1.5	2	2.5
y	-4	-3	-1.5	1	3	4

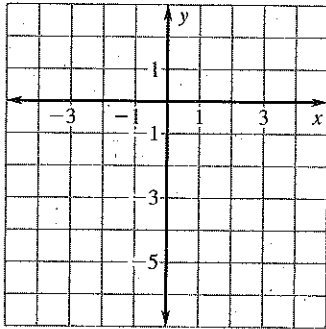


LESSON
5.6

Practice *continued*
For use with pages 325–333

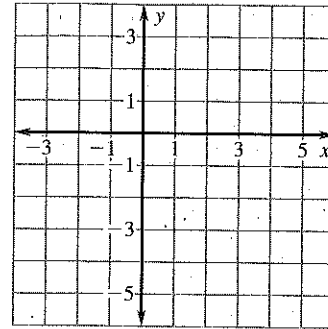
6.

x	-3	-2	-1	0	1	2
y	1	-1	0	-2	-4	-5



7.

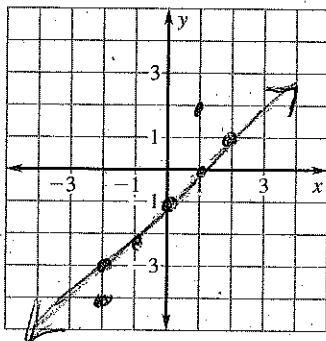
x	0	4	3	2	1	0
y	-3	-2	0	-1	1	1



Make a scatter plot of the data. Describe the correlation of the data. If possible, fit a line to the data and write an equation of the line.

8.

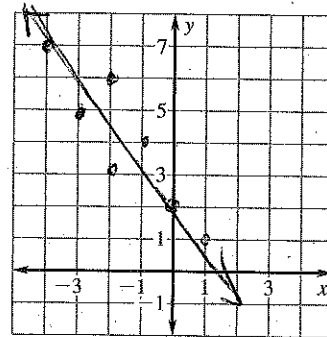
x	-2	-2	-1	0	1	1	2
y	-4	-3	-2	-1	0	2	1



positive correlation
 $y = x - 1$

9.

x	-4	-3	-2	-2	-1	0	1
y	7	5	6	3	4	2	1



negative correlation
 $y = -\frac{4}{3}x + 2$

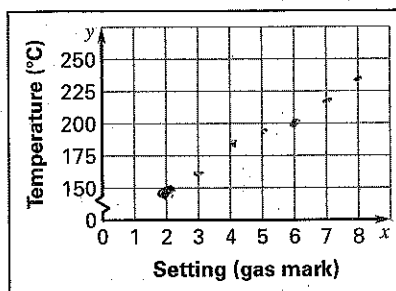
LESSON
5.6

Practice *continued*
For use with pages 325–333

- 10. Thermostat** The table shows the thermostat setting (in units called gas marks) on a British gas oven and the corresponding temperature in degrees Celsius.

Setting (gas mark)	2	3	4	5	6	7	8
Temperature (°C)	150	160	180	190	200	220	230

- a. Make a scatter plot of the data where x represents the thermostat setting (in gas marks) and y represents the temperature (in degrees Celsius).



- b. Describe the correlation of the data.

positive correlation. As the gas mark setting increases, the temp (°C) increases

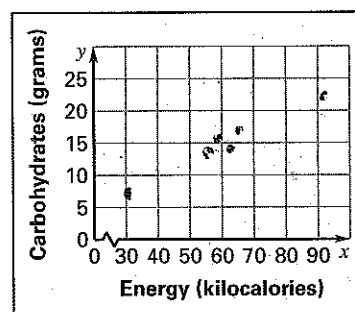
- c. An oven set to gas mark 10 heats to a temperature of 260°C. Does this fit the trend shown by your scatter plot? Explain your reasoning.

yes it is about 30°C hotter than the temp at the gas mark setting 8.

- 11. Fruits** The table shows the amount of energy (in kilocalories) and the amount of carbohydrates (in grams) in a 100-gram serving of different fruits.

Fruit	Apple	Banana	Blueberries	Kiwi	Pear	Strawberries	Mango
Energy (kcal)	59	92	56	61	59	30	65
Carbohydrates (g)	15.25	23.43	14.13	14.88	15.11	7.02	17

- a. Make a scatter plot of the data where x represents the energy (in kilocalories) and y represents the carbohydrates (in grams).



- b. Describe the correlation of the data.

positive correlation

- c. A 100-gram serving of an avocado contains 161 kilocalories of energy and 7.39 grams of carbohydrates. Does an avocado fit the trend shown by your scatter plot? Explain your reasoning.

NO. would expect a 161 kcal fruit to have significantly more grams of carbs than 7.39

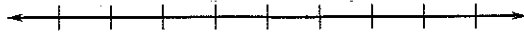
LESSON
6.3

Practice

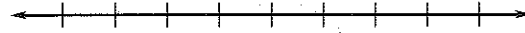
For use with pages 369–374

Solve the inequality. Graph your solution.

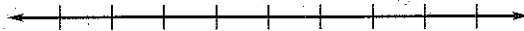
1. $4x - 7 \geq 1$



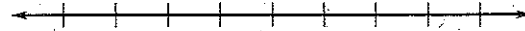
2. $7p + 3 < -11$



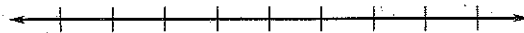
3. $8 - 2n \geq 26$



4. $3(a - 4) \leq 33$

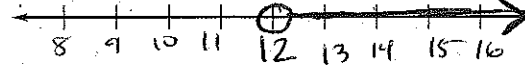


5. $6(y + 1) > 6$

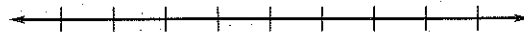


6. $-2(c - 1) < -22$

$$\begin{array}{r} -2c + 2 < -22 \\ -2 & -2 \\ \hline -2c < -24 \\ -2 & -2 \\ \hline c > 12 \end{array}$$

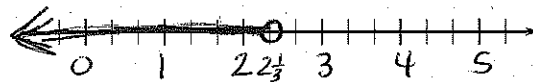


7. $8m - 7 < 4m + 5$

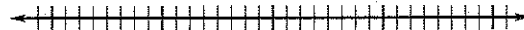


8. $10 - 11d > -5d - 4$

$$\begin{array}{r} 10 > 6d - 4 \\ +4 & +4 \\ \hline 14 > 6d \\ \frac{14}{6} > \frac{6d}{6} \\ \frac{7}{3} > d \end{array}$$

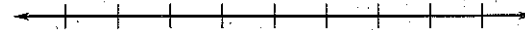


9. $9z \leq -7z + 14$



10. $6w + 3 < 2w + 15$

$$d < 2\frac{1}{3}$$



Solve the inequality, if possible.

11. $6y - 9 \leq 4y + 2y - 16$

12. $7p - 11p + 3 \geq 3 - 4p$

13. $4(c - 5) < 2(c - 10)$

14. $5(a - 3) \leq 5a - 6$

15. $6(x - 8) > 6x - 48$

16. $2(3d - 4) < 4 + 6d - 15$

LESSON
6.3**Practice** *continued*
For use with pages 369–374

30. Weaving A weaver spends \$420 on supplies to make wall hangings and plans to sell the wall hangings for \$80 each.

a. Write an inequality that gives the possible numbers w of wall hangings the weaver needs to sell in order for the profit to be positive.

b. What are the possible numbers of wall hangings the weaver needs to sell in order for the profit to be positive?

31. School Spirit Your club is in charge of making pins that students can buy to show their school spirit for the upcoming football game. You have made 225 pins so far, and you only have 2 hours left to make the rest of the pins. You need to make at least 400 pins.

a. Write an inequality that gives the possible numbers p of pins you have to make per minute in order to exceed your goal.

b. What are the possible numbers of pins you have to make per minute in order to exceed your goal?

32. Aquarium You are getting a larger aquarium for your neon tetra fish and you also want to add more neon tetras to the larger aquarium. The general rule is that each fish needs 2 gallons of water. You currently have 6 neon tetras. If you buy a 20-gallon aquarium, what are the possible numbers of fish you can put in your aquarium? *Explain* how you got your answer.

1 fish = 2 gal water

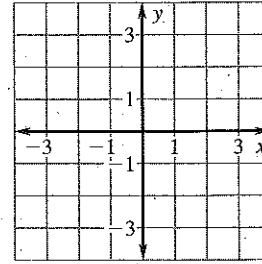
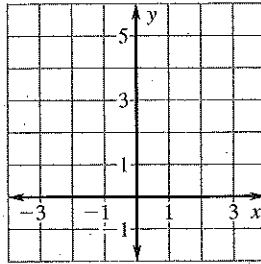
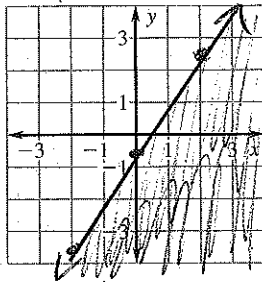
$$\frac{2f}{2} \leq \frac{20}{2}$$

$$f \leq 10$$

up to 10 neon tetras total
in a 20 gal aquarium

LESSON 6.7 Practice *continued*
For use with pages 404-412

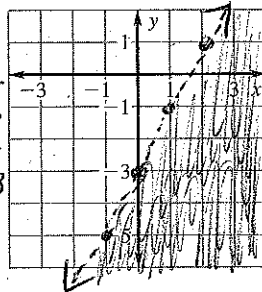
13. $4y \leq \frac{6x}{7} - \frac{2}{7}$ $y \leq \frac{3}{2}x - \frac{1}{2}$ 14. $5y \leq 10x + 15$



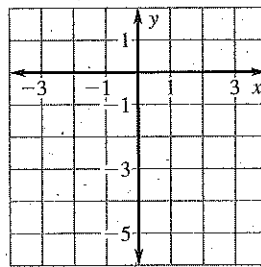
16. $2(y + 3) < 4x$

$2y + 6 < 4x$
 $\quad -6 \quad -6$

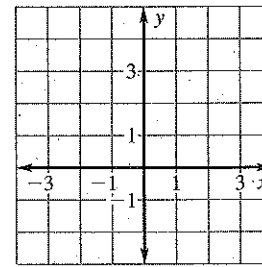
 $\frac{2y}{2} < \frac{4x-6}{2}$
 $y < 2x - 3$



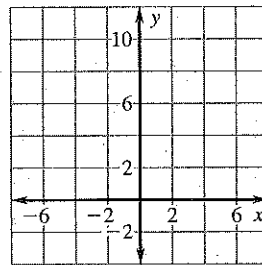
17. $2y - 3x \geq -8$



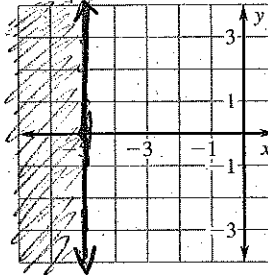
18. $2(x - y) < -5$



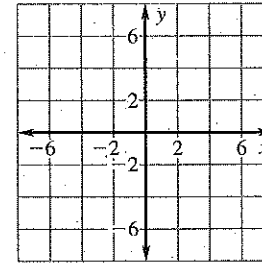
19. $y > 7$



20. $x \leq -5$

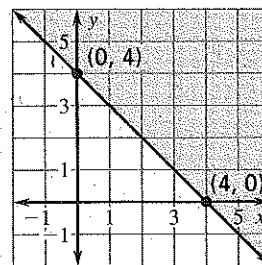


21. $y < -4$

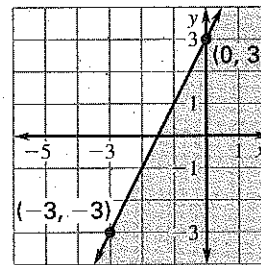


Write an inequality of the graph shown.

22.

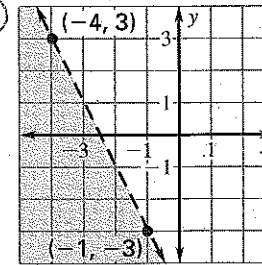


23.



$y \leq 2x + 3$

24.



$y < -2x - 5$

$y - 3 = -2(x + 4)$
 $y - 3 = -2x - 8$
 $\quad +3 \quad \quad +3$

$y = -2x - 5$

LESSON
6.7

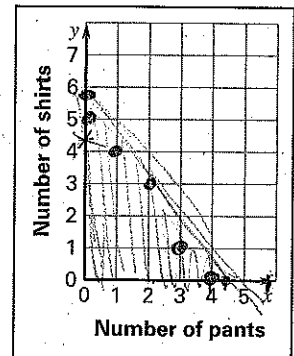
Practice *continued*
For use with pages 404–412

25. Clothes You are going clothes shopping and can spend at most \$130 on clothes. It costs \$30 for a pair of pants and \$22 for a shirt. Let x represent the number of pants you can buy. Let y represent the number of shirts you can buy.

- a. Write and graph an inequality that describes the different number of shirts and pants you can buy.

$$30x + 22y \leq 130$$

$$\begin{array}{r} -30x \\ \hline 22y \leq -30x + 130 \\ \frac{22y}{22} \leq \frac{-30x}{22} + \frac{130}{22} \\ y \leq \end{array}$$

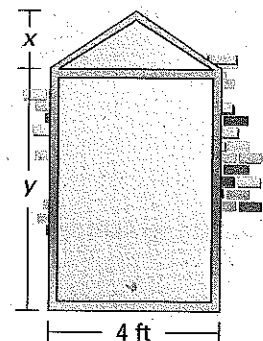


- b. Give three possible combinations of pants and shirts that you can buy.

parts	shirts	spend	left over
0	5	110	\$20
1	4	118	\$12
2	3	126	\$4
3	1	112	\$18
4	0	120	\$10

26. Window The area of the window shown is less than 42 square feet. Let x and y represent the heights of the triangular and rectangular portions of the window, respectively.

- a. Write and graph an inequality that describes the different dimensions of the window.



- b. Could the height of the triangular portion be 2 feet and the height of the rectangular portion be 8 feet?

