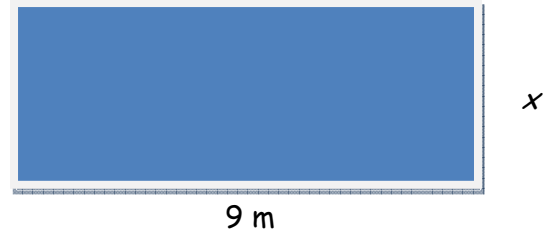


Chapter 6 Review

1. Graph the inequality $x > -2$.
2. Graph the inequality $-10 \leq -x$
3. Solve the inequality $-5 < 4 + x$ and graph the solution.
4. Solve the inequality $x - 3 > 2$ and graph the solution.
5. Solve the inequality $-10 > a - 6$ and graph the solution.
6. Solve the inequality $5 + x \geq -5$ and graph the solution.
7. Solve the inequality $-\frac{n}{5} < 17$.
8. Solve the inequality $-18.2x \geq -91$.
9. Solve the inequality $\frac{n}{4} \leq -9$.
10. Mercury is the metallic element with the lowest melting point, -38.87°C . Write an inequality that describes the melting point p (in degrees Celsius) of any other metallic element.
11. Solve the inequality $x + 5 > -13$.
12. Solve the inequality $6x + 5 < 23$.
13. Solve the inequality $2x + 10 \geq 7(x + 1)$.
14. Solve the inequality $-2(x + 3) < 4x - 7$.
15. An amusement park charges \$5 for admission and \$1.25 for each ride. You go to the park with \$25. Write an inequality that represents the possible number of rides you can go on. What is the maximum number of rides you can go on?

Area > 36 square meters



16. Write an inequality for the values of x .
17. Solve the inequality $8 \leq 2x + 6 \leq 18$. Write a sentence that describes the solution.
18. Solve the inequality $6 + 2x > 20$ or $8 + x \leq 0$. Write a sentence that describes the solution.
19. Solve the inequality $-3x - 7 \geq 8$ or $-2x - 11 \leq -31$. Write a sentence that describes the solution.
20. Solve the inequality $-4 < 4x - 8 < 12$ and graph the solution. Then check graphically whether $x = 1$ is a solution by graph the x -value on the same number line.
21. Solve the inequality $-2x \geq 6$ or $2x + 1 > 5$ and graph the solution. Then check graphically whether $x = 0$ is a solution by graph the x -value on the same number line.
22. In 1967 a 60-second TV commercial during the first Super Bowl cost \$85,000. In 1998 advertisers paid \$2.6 million for 60 second of commercial time (two 30-second spots). Write a compound inequality that represents the different prices that 60 seconds of commercial time during the Super Bowl probably cost between 1967 and 1998.
23. Solve the equation $|x - 4| = 6$.
24. Solve the equation $|4x - 2| = 22$.
25. Solve the equation $\left|x - \frac{1}{2}\right| = \frac{5}{2}$.
26. Solve the inequality $|2x - 9| \leq 11$.
27. Solve the inequality $|4x + 9| - 1 < 5$.

28. Solve the inequality $|x + 10| \geq 20$.
29. Solve the inequality $|5x + 1| - 8 \leq 16$. Then graph the solution.
30. Solve the inequality $|3x - 9| + 2 > 7$. Then graph the solution.
31. The test scores in your class range from 60 to 100. Write an absolute-value inequality describing the range of the test scores.

32. When a firework star bursts, the color of the "stars" is determined by the chemical compounds in the firework. The wavelengths for different colors in the spectrum are shown in the table to the right.

Color	Wavelength, w
Ultraviolet	$w < 400$
Violet	$400 \leq w < 424$
Blue	$424 \leq w < 491$
Green	$491 \leq w < 575$
Yellow	$575 \leq w < 585$
Orange	$585 \leq w < 647$
Red	$647 \leq w < 700$
Infrared	$700 \leq w$

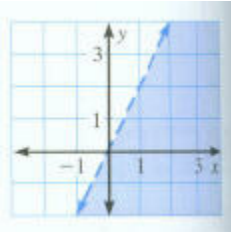
- a. A firework star contains strontium. When it is burned, strontium emits light at wavelengths given by $|w - 63| < 38$. What colors would the star be?
- b. A firework star contains copper compound. When it is burned, the compound emits light at wavelengths given by $|w - 455| < 23$. What colors would the star be?
- c. A firework star contains barium chlorate. When it is burned, barium chlorate emits light at wavelengths given by $|w - 519.5| < 12.5$. What colors would the star be?
- d. A firework star contains sodium compound. When it is burned, the compound emits light at wavelengths given by $|w - 600| < 5$. Determine the color of the star.
33. Sketch the graph of the inequality $y > -3$.
34. Sketch the graph of the inequality $8 - y \leq 0$.
35. Sketch the graph of the inequality $-2x \geq 10$.
36. Are the ordered pairs $(2, 2)$ and $(3, -3)$ solutions of the inequality $0.6x + 0.6y > 2.4$?

37. Are the ordered pairs (6, -12) and (8, -8) solutions of the inequality $\frac{5}{6}x + \frac{5}{3}y > 4$?

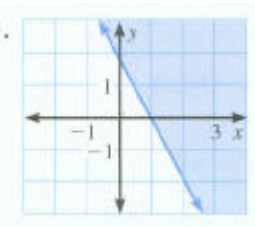
38. Sketch the graph of the inequality $x + y > -8$.

39. Sketch the graph of the inequality $4x + 3y \leq 24$.

40. Write an inequality whose solution is shown in the graph.



a.



b.

41. You have \$12 to spend on fruit for a meeting. Grapes cost \$1 per pound and peaches cost \$1.50 per pound. Let x represent the number of pound of grapes you can buy. Let y represent the number of pounds of peaches you can buy. Write and graph an inequality to model the amounts of grapes and peaches you can buy.

42. Make a stem-and-leaf plot for the data. Use the results to list the data in increasing order.

60,	74,	75,	63,	78,	70,	50,
65,	78,	54	74,	52,	74	

43. Find the mean, the median, and the mode of the numbers

5,	3,	10,	13,	8,	5,	17,
2,	7,	9	10,	4,	1	

44. The table shows the number of shutouts that ten baseball pitchers had in their careers. A shutout is a complete game pitched without allowing a run.
- Find the mean and the median for the set of data.
 - Write the numbers in decreasing order.
 - Does the set of data have a mode? If so, what is it?

Pitcher	Shutouts
Warren Spahn	63
Christy Mathewson	80
Eddie Plank	69
Nolan Ryan	61
Bert Blyleven	60
Don Sutton	58
Grover Alexander	90
Walter Johnson	110
Cy Young	76
Tom Seaver	61

45. Find the first, second, and third quartiles of the data
11, 12, 6, 5, 4, 7, 5, 10, 3, 4
46. Draw a box-and-whisker plot of the data
10, 5, 9, 50, 10, 3, 4, 15, 20, 6

47. To increase the amount of milk produced by the herd, a dairy farmer changes the cows' feed. The data show the average daily milk yield (in pints) for 10 cows before the feed change and one month after the feed change. Did the feed change increase the average daily milk yield of a cow? Use box-and-whisker plots to support your answer.

Before	39	42	43	44	39	40	42	51	40	47
After	52	53	50	46	39	49	50	49	51	44