

Math 1 Chapter 2 Study Guide

Write the inequality as a sentence.

- 1) A number n is less than 4. 2) A number y minus 8 is greater than or equal to 10.
3) The number 21 is at least a number t times 3. 4) Two-thirds of a number b is no more than 12.

Determine whether the value is a solution of the inequality.

- 5) $x - 5 > 10$; $x = 2$ 6) $\frac{2}{3}y - 12 \leq 24$; $y = 48$
7) $30 - 6w < -3(5 + 7w)$; $w = -4$ 8) $2(4z + 6) \geq -8z + 12$; $z = -1$

Solve the inequality. Graph the solution.

- 9) $4 + y \geq 24$ 10) $c + 2 \leq 9$ 11) $-5h + 6h \geq 8 - 1$
12) $b + 4 - 8 \geq 9$ 13) $28 - (-t) > -40 + 18$ 14) $20 - 3z + 4z < 9 - 20$

Write the sentence as an inequality. Then solve the inequality. List 3 possible solutions.

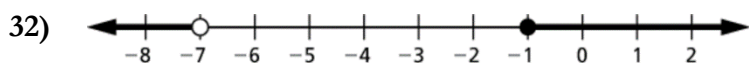
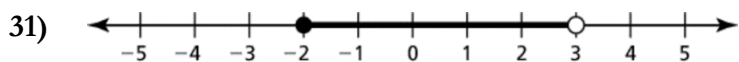
- 15) A number plus 12 is no more than 8. 16) The difference of 20 and a number is at least 15.
17) A lift gate on the back of a semi-truck trailer can lift at most 2000 pounds. You are loading a pallet that weighs 1835 pounds plus yourself. Write an inequality that represents the possible weights for yourself and solve the inequality.

Solve the inequality. Graph the solution.

- 18) $9w \leq 27$ 19) $-40 \geq 8y$ 20) $\frac{1}{5}a > 7$
21) $\frac{3}{-4}g < 18$ 22) $-7 > -\frac{1}{11}d$ 23) $\frac{w}{-4} \leq 12$
24) $3u - 7 \leq 14$ 25) $-11 \geq 13 - 6n$ 26) $7 + \frac{p}{3} < 2$
27) $7w + 1 < w - 5$ 28) $3(g - 5) > 3g$ 29) $2(h - 2) \leq -2(1 - h)$

- 30) You are saving \$12 per week to purchase a new kayak. Prices start at \$300 and go up. Your parents give you \$144 to help you purchase your kayak. Write and solve an inequality to find the number of weeks you need to save to purchase the kayak.

Write a compound inequality that is represented by the graph.



Write the sentence as an inequality. Graph the inequality.

- 33) A number b is greater than 3 and less than 8.
34) A number m is more than 4 or less than or equal to -3 .

Solve the inequality. Graph the solution.

35) $-1 < 9 + n < 17$

36) $-50 < 7k + 6 < -8$

37) $g + 5 \geq 12$ or $\frac{g}{9} < 0$

38) $8t + 8 \geq -64$ and $-7 - 8t \geq -79$

39) $2x < 10$ or $\frac{x}{2} \geq 3$

Solve the inequality. Graph the solution, if possible.

40) $|x| \geq 4$

41) $|x + 1| < 5$

42) $|x - 2| \geq 6$

43) $|x + 9| \geq -4$

44) $|x + 56| < -5$

45) $|x + 4| - 3 \leq 2$

Describe and correct the error in solving the inequality.

46) $-3t + 2 \leq -4$

47) $x + 7 < 10$

$-3t \leq -4$

$-7 - 7$

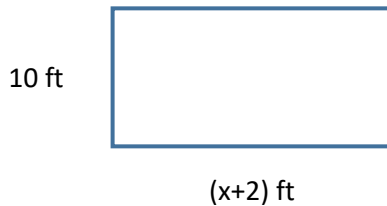
$t \geq \frac{4}{3}$

$x < 3$



Write an inequality for each scenario. Then solve for x and graph the solution.

48) The area of the rectangle is greater than 60 square feet. What are the possible values of x?



Add or subtract.

49) $5 - 8$

50) $-1 + (-17)$

51) $-5 - (-7)$

52) $20 + (-3)$

Multiply or divide.

53) $-9(8)$

54) $-19 \cdot (-2)$

55) $-42 \div 6$

56) $52 \div (-4)$

Solve the equation. Check your solution.

57) $x + 2 = 9$

58) $7b = 49$

59) $\frac{y}{13} = 5$

60) $5x - 10 = -10$

61) $36 = 12u - 3u$

62) $11 = 1 - w$

63) $8 = \frac{c}{7} + 4$

64) $17x - 3 - 5x = 45$

65) $\frac{z + 5}{2} = 3$

Simplify.

66) $-|14|$

67) $|12| - |-12|$

68) $\left| -\frac{24}{-2} \right|$