

4.1 Practice A

Write an inequality for the graph. Then, in words, describe all the values of x that make the inequality true.



Write the word sentence as an inequality.

3. A number x is at most 3.
4. A number y added to 2 is greater than 7.
5. A number c multiplied by 3 is less than -12 .
6. A number m minus 1.5 is no less than 2.

Tell whether the given value is a solution of the inequality.

7. $t - 3 \geq 2$; $t = 10$
8. $6w < -2$; $w = 1$
9. $p + 1.6 \leq 4$; $p = 5$
10. $\frac{1}{2}d > -3$; $d = 0$

Graph the inequality on a number line.

11. $k > 1$
12. $n \leq -2.5$

13. In order to try out for one of the parts in a play at the local theater, you must be at most 12 years old. Write an inequality that represents this situation.

Tell whether the given value is a solution of the inequality.

14. $3h - 7 < h$; $h = 2$
15. $q + 8 \geq \frac{q}{4}$; $q = -12$

16. Consider the inequalities $-2x < 10$ and $-6 < -2x$.

- a. Is $x = 0$ a solution to both inequalities?
- b. Is $x = 4$ a solution to both inequalities?
- c. Find another value of x that is a solution to both inequalities.

4.2 Practice A**Solve the inequality. Graph the solution.**

1. $p - 4 < 2$

2. $s + 1 \geq -5$

3. $k - 14 \leq -10$

4. $2 < n + \frac{3}{2}$

5. $z - \frac{2}{3} \geq \frac{1}{3}$

6. $-\frac{1}{2} > -\frac{1}{6} + t$

7. $d - 2.4 \leq -5.1$

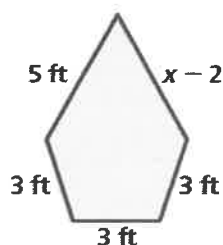
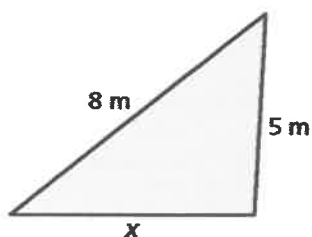
8. $-4.5 + q > 2.5$

9. To stay within your budget, the area of the house and the garage combined is at most 3000 square feet. The area of the garage is 528 square feet. Write and solve an inequality that represents the area of the house.
10. You have \$137.26 in a bank account. The bank requires you to have at least \$50 in your account or else you are charged a fee. Write and solve an inequality that represents the amount you can write your next check for without being charged a fee.

Write and solve an inequality that represents x .

11. The perimeter is less than 20 meters.

12. The perimeter is at least 18 feet.



13. You need at least 5000 points to earn a gift card from your bank. You currently have 2700 points.
- Write and solve an inequality that represents the number of points you need to earn a gift card.
 - You deposit money in your savings account and earn an additional 400 points. How does this change the inequality?

4.3 Practice A

Solve the inequality. Graph the solution.

1. $8x > 8$

2. $\frac{r}{5} \leq 2$

3. $-32 > 1.6h$

4. $\frac{u}{8} \geq 2.1$

5. $1.5j < -6.6$

6. $-\frac{3}{2} < 3x$

Write the word sentence as an inequality. Then solve the inequality.

7. Five times a number is not less than 15.
8. The quotient of a number and 4 is less than -1 .
9. An SUV averages 16.5 miles per gallon. The maximum average number of miles that can be driven on a full tank of gas is 363 miles. Write and solve an inequality that represents the number of gallons in a tank.

Solve the inequality. Graph the solution.

10. $-2p \geq 10$

11. $-2 > \frac{v}{-3}$

12. $\frac{g}{-3.2} > 4$

13. $-\frac{y}{3} \leq 1.4$

14. $-12 > -9h$

15. $\frac{a}{-3.5} \leq -1.7$

16. You are creating a decorative rope that is at least 20 feet long.
 - a. To create the rope you are using beads that are 6 inches long. Write and solve an inequality that represents the number of beads that you can use.
 - b. You do not have enough 6-inch beads to make the rope, so you will use 10-inch beads instead. Write and solve an inequality that represents the number of 10-inch beads that you can use.

4.4 Practice A**Solve the inequality. Graph the solution.**

1. $3m - 7 < 2$

2. $-13 \leq -5r + 2$

3. $2k + \frac{1}{3} > 1$

4. $4.3 - 1.5c \leq 10$

5. You are renting a moving truck for a day. There is a daily fee of \$20 and a charge of \$0.75 per mile. Your budget allows a maximum total cost of \$65. Write and solve an inequality that represents the number of miles you can drive the truck.

Solve the inequality. Graph the solution.

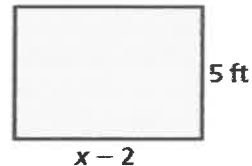
6. $2(b - 4) > -6$

7. $-8(p + 3) \leq 16$

8. $15 \geq \frac{5}{3}(d - 6)$

9. $3.4 < 0.4(a + 12)$

10. Write and solve an inequality that represents the values of x for which the area of the rectangle will be at least 35 square feet.

**Solve the inequality. Graph the solution.**

11. $3x - 7x + 2 < 10 - 12$

12. $14w - 8w - 5.4 \geq 7.3 - 10$

13. Your weekly base salary is \$150. You earn \$20 for each cell phone that you sell.
- What is the minimum amount you can earn in a week?
 - Write and solve an inequality that represents the number of cell phones you must sell to make at least \$630 a week.
 - Write and solve an inequality that represents the number of cell phones you must sell to make at least \$750 a week.
 - The company policy is that as a part-time employee, the maximum you can earn each week is \$950. Write and solve an inequality that represents the number of cell phones you can sell each week.