

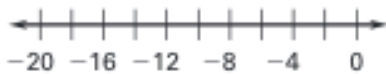
# Algebra I

## Review Chapter 5

Name \_\_\_\_\_

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

1.  $x + 8 > -10$



2.  $\frac{y}{-4} < -3$



3.  $7 - 5d < -3$



4.  $4a - 8 < 2a$



**Answers**

1. \_\_\_\_\_

\_\_\_\_\_

2. \_\_\_\_\_

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3. \_\_\_\_\_

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4. \_\_\_\_\_

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5. \_\_\_\_\_

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6. \_\_\_\_\_

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7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

**In Exercises 5 and 6, use the following information.**

To be eligible for the playoffs, a baseball team cannot lose more than 40% of its remaining games. The team has 18 games remaining in the regular season.

- Write and solve an inequality to find the number of games  $g$  that the team could lose and still be eligible for the playoffs.
- If the baseball team loses 8 of its remaining games, will the team advance to the playoffs? *Explain* your answer.

**Solve the inequality, if possible.**

- $2(3x - 1) > 6(x + 1)$
- $3(2p - 5) \geq 8p - 5$
- $5(2s + 7) - 4 > 10s - 7$

**Translate the verbal statement into an inequality. Then solve the inequality.**

10. Five-eighths of a number  $x$  is greater than or equal to  $-10$ .
11. The difference of 9 and  $3x$  is less than or equal to  $-6$ .

**In Exercises 12 and 13, use the following information.**

The photography club at your school decides to publish a calendar to raise money. The initial cost for equipment and software is \$600. In addition to the initial cost, each calendar costs \$2.50 to produce. The club plans to sell the calendars for \$8 each.

12. Write and solve an inequality to find the number  $n$  of calendars that the photography club must sell in order to raise at least \$1200.
13. Will the club reach their fundraising goal if they sell 110 calendars? Explain your answer.

**Solve the compound inequality. Graph your solution.**

14.  $5 - x > 2$  or  $5 \leq x - 7$



15.  $-10 \leq 2(x - 1) < 14$



16. The water pressure  $p$  (in pounds per square inch) exerted on an object in the ocean can be given by the function  $p = 15 + \frac{6}{11}d$  where  $d$  is the depth (in feet) below the surface of the water. What are the possible water pressures of an object when the depth ranges from 102 feet to 468 feet?

**Solve the equation or inequality, if possible.**

17.  $|3x - 1| = 2$

18.  $2|x| - 7 = 3$

19.  $2|x + 8| + 6 = 0$

20.  $|x - 2| + 6 > 9$

21.  $-2|4 - x| \leq -4$

22.  $|2x - 8| < 0$

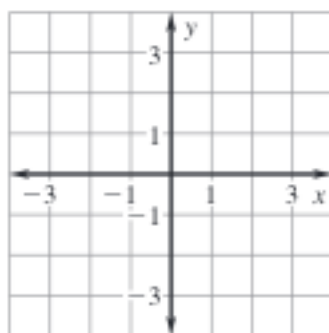
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10. \_\_\_\_\_
11. \_\_\_\_\_
12. \_\_\_\_\_
13. \_\_\_\_\_

**Answers**

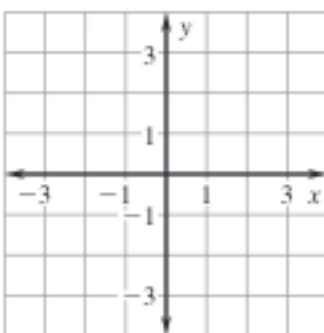
14. \_\_\_\_\_
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21. \_\_\_\_\_
22. \_\_\_\_\_

**Graph the inequality.**

**23.**  $y > -3x - 2$



**24.**  $x - 3y < 6$



**23.** \_\_\_\_\_

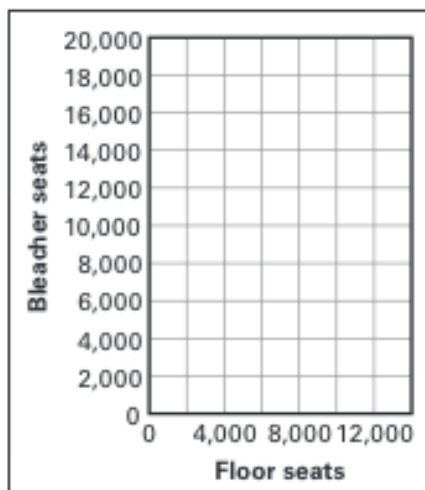
**24.** \_\_\_\_\_

**In Exercises 25 and 26, use the following information.**

A concert promoter needs to take in at least \$380,000 from ticket sales. The promoter charges \$30 for floor seats and \$20 for bleacher seats.

**25.** Write and graph an inequality that describes the goal in terms of selling bleacher seat tickets and selling floor seat tickets.

**26.** Identify and interpret one of the solutions.



**25.** \_\_\_\_\_

**26.** \_\_\_\_\_

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