

Algebra Ch. 3 Test REVIEW

Multiple Choice

Identify the letter of the choice that best completes the statement or answers the question.

Which number is a solution of the inequality?

1. $9x - 13 \geq 14$

- a. $\frac{4}{11}$ b. -3 c. 3 d. 2


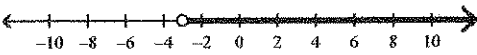
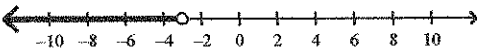

Write the inequality in words.

2. $5n - 10 > 26$

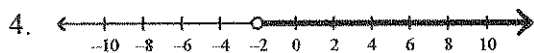
- a. Five times n less than ten is twenty-six.
 b. Ten plus five times a number is less than or equal to twenty-six.
 c. Ten less than five times a number is greater than twenty-six.
 d. Ten less than a number is less than or equal to twenty-six.

Graph the inequality.

3. $x \leq -3$

- a. 
- b. 
- c. 
- d. 

Write an inequality for the graph.



- a. $x < 2$ b. $x < -2$ c. $x \leq -2$ d. $x > -2$

Write an inequality to model the situation.

5. A number exceeds 3.

a. $n > 3$

b. $n < 3$

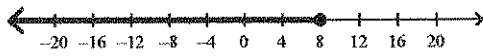
c. $n \geq 3$

d. $n \leq 3$

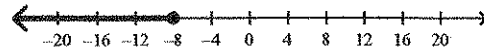
Solve the inequality. Then graph your solution.

6. $x - 3 \leq -5$

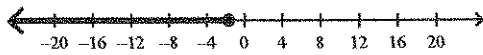
a. $x \leq 8$



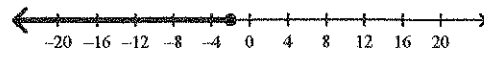
c. $x \leq -8$



b. $x \leq \frac{-5}{3}$

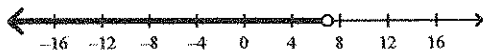


d. $x \leq -2$

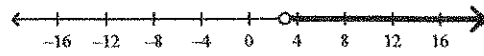


7. $c + 5 > -2$

a. $c < 7$



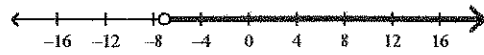
c. $c > 3$



b. $c > 7$

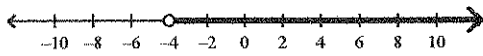


d. $c > -7$

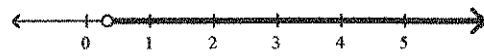


8. $\frac{x}{6} > 2$

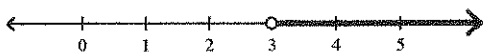
a. $x > -4$



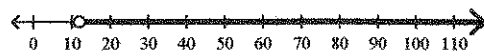
c. $x > \frac{1}{3}$



b. $x > 3$

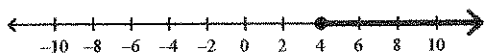


d. $x > 12$

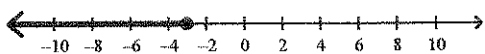


9. $-\frac{x}{3} \leq 1$

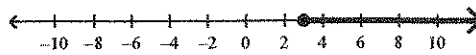
a. $x \leq 4$



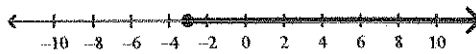
b. $x \leq -3$



c. $x \geq 3$

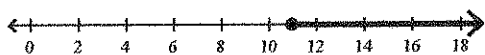


d. $x \geq -3$

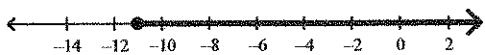


10. $\frac{x}{7} \geq -4$

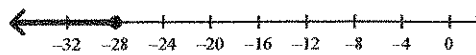
a. $x \geq 11$



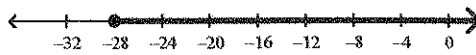
b. $x \geq -11$



c. $x \leq -28$

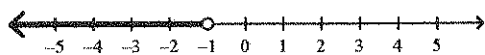


d. $x \geq -28$

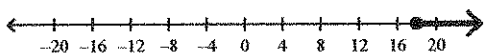


11. $9x \geq -9$

a. $x \leq -1$



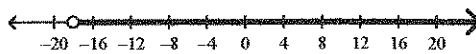
b. $x \geq 18$



c. $x \geq -1$



d. $x > -18$

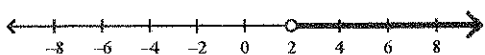


12. $-2w < -4$

a. $w > -2$



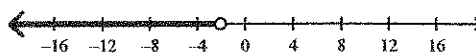
b. $w > 2$



c. $w < 2$

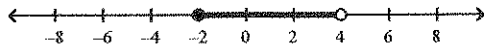


d. $w < -2$



13. $-8 \leq 2x - 4 < 4$

a. $-2 \leq x < 4$



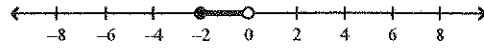
b. $0 \leq x < 6$



c. $-6 \leq x < -2$

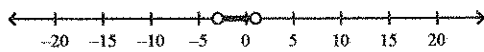


d. $-2 \leq x < 0$

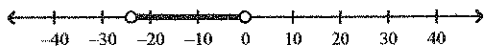


14. $|6x + 6| < 12$

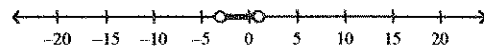
a. $-3 < x < 1$



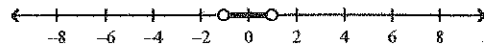
b. $-24 < x < 0$



c. $-3 > x > 1$



d. $-1 < x < 1$



Solve the inequality.

15. $x + 4 - 2(x - 16) > 0$

a. $x < -28$

b. $x > -28$

c. $x > 36$

d. $x < 36$

16. $4(w - 5) > 16$

a. $w < 21$

b. $w > 4$

c. $w > 9$

d. $w > 21$

17. $5 + 14w \geq 9(w + 5)$

a. $w \geq 10$

b. $w \geq -8$

c. $w \geq 9$

d. $w \geq 8$

18. $8k - 12 \leq 10k + 20$

a. $k \geq -16$

b. $k \geq \frac{4}{9}$

c. $k \geq 4$

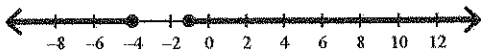
d. $k \geq 1\frac{7}{9}$

19. Your class hopes to collect at least 375 cans of food for the annual food drive. There were 117 cans donated the first week and 100 more the second week.
- Write an inequality that describes this situation. Let c represent the number of cans of food that must be collected by the end of the third week for your class to meet or surpass your goal.
 - How many cans are needed to meet or surpass your goal?
 - $117 + 100 + 375 \geq c; c \geq 592$
 - $117 + 100 + c \geq 375; c \leq 592$
 - $117 + 100 + c \geq 375; c \geq 158$
 - $117 + 100 + c > 375; c > 158$

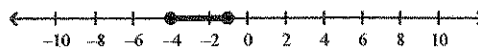
Write a compound inequality that represents each situation. Graph your solution.

20. all real numbers at least -4 and at most -1

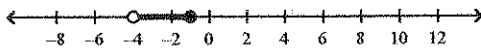
a. $-4 \geq x \geq -1$



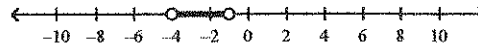
c. $-4 \leq x \leq -1$



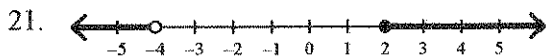
b. $-4 \geq x \geq -1$



d. $-4 < x < -1$



Write a compound inequality that the graph could represent.



a. $q < -2$ or $q \geq 4$

c. $-2 \leq q < 4$

b. $q > -4$ or $q \leq 2$

d. $q < -4$ or $q \geq 2$

22. A student scored 74 and 98 on her first two quizzes. Write and solve a compound inequality to find the possible values for a third quiz score that would give her an average between 85 and 90.

a. $90 \leq \frac{74 + 98 + n}{3} \leq 85; 98 \leq n \leq 83$

b. $85 \leq \frac{74 + 98}{2} + n \leq 90; -1 \leq n \leq 4$

c. $85 \leq \frac{74 + 98 + n}{3} \leq 90; 83 \leq n \leq 98$

d. $74 \leq \frac{85 + 98 + n}{3} \leq 90; 39 \leq n \leq 87$

Solve the equation. If there is no solution, write *no solution*.

23. $9|n| - 15 = 12$

a. $n = 18$ or $n = -36$

b. $n = 3$ or $n = -3$

c. $n = 3$

d. no solution

24. $\frac{|q|}{3} + 5 = -1$

a. no solution

b. $q = -12$ or 12

c. $q = 12$

d. $q = -18$

25. The ideal width of a safety belt strap for a certain automobile is 6 cm. An actual width can vary by at most 0.4 cm. Write an absolute value inequality for the range of acceptable widths.

a. $|w + 6| \leq 0.4$

b. $|w - 6| \leq 0.4$

c. $|w - 0.4| \leq 6$

d. $|w + 0.4| \leq 6$