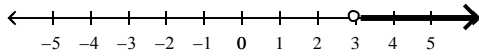# Inequality Word Problems

Multiple Choice
Identify the choice that best completes the statement or answers the question.

_____ 1. Write an inequality for the graph.

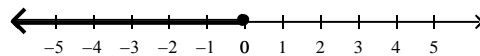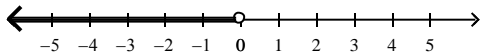a. $x < 3$ b. $x \le 3$ c. $x \ge 3$ d. $x > 3$

_____ 2. A road has a speed limit of 30 mi/h. Write an inequality that describes the legal speeds *r* for motor vehicles.
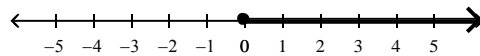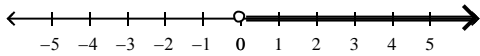a. $r > 30$ b. $r \le 30$ c. $r \ge 30$ d. $r < 30$

_____ 3. Write an inequality for the sentence. Graph the solution on a number line.

c is not less than zero.

a. $c < 0$

c. $c \le 0$
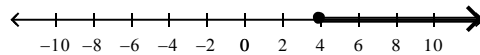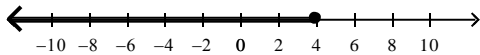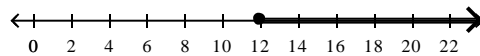

b. $c > 0$

d. $c \ge 0$

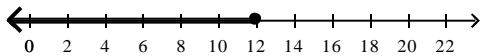**Solve the inequality. Graph the solutions.**
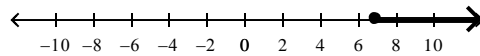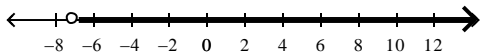
_____ 4. $a + 4 \ge 8$
a. $a \le 4$

c. $a \ge 4$

b. $a \le 12$

d. $a \ge 12$

_____ 5. $q - 7 > 0$
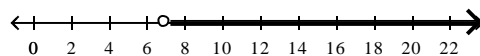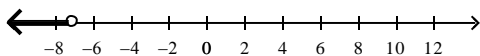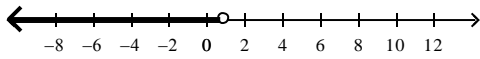a. $q > -7$

c. $q < 7$

b. $q < -7$

d. $q > 7$

____ 6. $h - 2 < -1$
   a. $h < 1$ c. $h < -3$
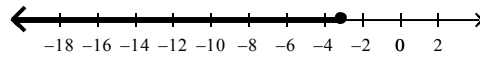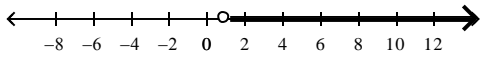

   b. $h > 1$ d. $h > -3$
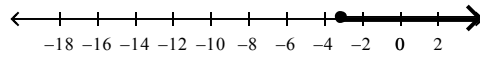
____ 7. Together, Louisa and Jill scored more than 30 points in the basketball game. If Jill scored 12 points, how many points P did Louisa score?
   a. $P > 18$ b. $P > 42$ c. $P < 42$ d. $P < 18$

Solve the inequality.

____ 8. $5n > -25$
   a. $n > -20$ b. $n > -5$ c. $n > 30$ d. $n < -5$

____ 9. $42 < -6d$
   a. $d < -7$ b. $d < 36$ c. $d > -7$ d. $d < -48$

____ 10. $\dfrac{r}{6} \le 3$
   a. $r \ge 18$ b. $r \le 18$ c. $r \le \dfrac{1}{2}$ d. $r \le 9$

____ 11. $\dfrac{y}{-6} > 10$
   a. $y < -16$ b. $y > -60$ c. $y > 4$ d. $y < -60$

____ 12. $\dfrac{1}{4} c < 8$
   a. $c < -4$ b. $c < 32$ c. $c > 32$ d. $c > 12$

____ 13. Mandy and 2 friends bought some mechanical pencils at a special sale. They divided some of the pencils equally among themselves and then gave 3 to Mandy's little brother. At that time they had 19 pencils left.

   Solve the equation $\dfrac{p}{3} - 3 = 19$ to find the number of pencils p that they bought at the sale.

   a. 48 pencils   b. 57 pencils   c. 66 pencils   d. 22 pencils

_____ 14. Work-Out Corner has 5 more than 3 times as many exercise bicycles as The Gym. Together they have 21 bicycles. Solve the equation $x + 3x + 5 = 21$ to find the number of bicycles at Work-Out Corner.
   a. 4 bicycles   b. 17 bicycles   c. 7 bicycles   d. 25 bicycles

_____ 15. The sum of three consecutive integers is 72. Find the integers.
   a. 22, 23, 24   b. 25, 26, 27   c. 23, 24, 25   d. 24, 25, 26

_____ 16. Twenty-five members of the eighth grade class at Park Center Middle School are going to a museum and then to lunch. Each student must pay an entrance fee to the museum and $7.25 for lunch. The total cost for the trip is $443.75. What is the entrance fee for one student?
   a. $10.50   b. $17.46   c. $17.75   d. $61.21

_____ 17. The Party Room at Penny's Pizza rents for an initial fee of $30 and then $5 per hour. Aislyn's bill for her birthday party was $50. For how many hours did she rent the room?
   a. 6 hours   b. 16 hours   c. 4 hours   d. 10 hours

_____ 18. Ms. Baker purchased a number of juice packs at a cost of $0.30 each and a loaf of bread that cost $1.19. The total cost of her purchases was $2.99. Which equation can you use to determine how many juice packs Ms. Baker purchased?
   a. $2.99 - 1.19j = 0.30$ c. $1.19j + 0.30j = 2.99$
   b. $0.30j + 2.99 = 1.19$ d. $0.30j + 1.19 = 2.99$

_____ 19. Melissa wants to spend no more than $300 on school clothes. She spends $75 on a coat and then wants to buy some sweaters that are on special for $10 each. Solve the inequality $75 + 10s \leq 300$ to find the greatest number of sweaters s she can buy.
   a. 23 sweaters   b. 22 sweaters   c. 30 sweaters   d. 21 sweaters

_____ 20. A small airplane can carry less than 1,050 pounds of luggage and mail. The mail for the day weighs 490 pounds. If each passenger brings 70 pounds of luggage, what is the greatest possible number of passengers that can be taken?
   a. 15 passengers   b. 7 passengers   c. 8 passengers   d. 9 passengers

_____ 21. Four times the sum of a number and 15 is at least 120. Let x represent the number. Find all possible values for x.
   a. $x \geq 26$ b. $x \geq -15$ c. $x \geq 15$ d. $x \geq -26$

Inequality Word Problems
Answer Section

MULTIPLE CHOICE

    1. ANS: D
    2. ANS: B
    3. ANS: D
    4. ANS: C
    5. ANS: D
    6. ANS: A
    7. ANS: A
    8. ANS: B
    9. ANS: A
  10. ANS: B
  11. ANS: D
  12. ANS: B
  13. ANS: C
  14. ANS: B
  15. ANS: C
  16. ANS: A
  17. ANS: C
  18. ANS: D
  19. ANS: B
  20. ANS: B
  21. ANS: C