**Chapter 3 Exercise** NAME_____-CLASS PD_____

ALL WORK IS TO BE DONE ON SEPARATE PAPER.   SHOW ALL WORK FOR CREDIT.
**FOLLOW YOUR HOMEWORK GUIDELINES FOR HEADING AND WORK FORMAT.**

1. What is the least possible integer solution of the inequality $4.103x > 19.868$?

2. A volleyball team scored 14 more points in its first game than in its third game. In the second game, the team scored 28 points. The total number of points scored was less than 80. What is the greatest number of points the team could have scored in its first game?

3. Describe the solutions of $6 + y < 10$ in words.

4. Graph the inequality $m < -3.4$.

5. Write the inequality shown by the graph.
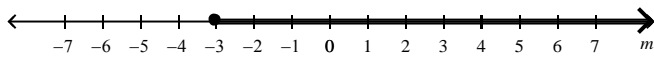
6. To join the school swim team, swimmers must be able to swim at least 500 yards without stopping. Let n represent the number of yards a swimmer can swim without stopping. Write an inequality describing which values of n will result in a swimmer making the team. Graph the solution.

7. Sam earned $450 during winter vacation. He needs to save $180 for a camping trip over spring break. He can spend the remainder of the money on music. Write an inequality to show how much he can spend on music. Then, graph the inequality.

8. Solve the inequality $n + 6 < -1.5$ and graph the solutions.

9. Carlotta subscribes to the Hot Burn music service. She can download no more than 11 song files per week. Carlotta has already downloaded 8 song files this week. Write, solve, and graph an inequality to show how many more songs Carlotta can download.

10. Denise has $365 in her saving account. She wants to save at least $635. Write and solve an inequality to determine how much more money Denise must save to reach her goal. Let d represent the amount of money in dollars Denise must save to reach her goal.

11. Solve the inequality and graph the solution.
$$x + 1\tfrac{2}{5} \le 6\tfrac{8}{10}$$

12. Solve the inequality $\dfrac{x}{8} > 3$ and graph the solutions.

13. Solve the inequality $2m \le 18$ and graph the solutions.

14. Solve the inequality $\dfrac{z}{-4} \le 2$ and graph the solutions.

15. Solve the inequality $3g \ge -9$ and graph the solutions.

16. Marco's Drama class is performing a play. He wants to buy as many tickets as he can afford. If tickets cost $2.50 each and he has $14.75 to spend, how many tickets can he buy?

17. What is the greatest possible integer solution of the inequality $2.847x < 15.168$?

18. Solve the inequality $-n - 4 < 3$ and graph the solutions.

19. Solve the inequality $z + 8 + 3z \leq -4$ and graph the solutions.

20. A family travels to Bryce Canyon for three days. On the first day, they drove 150 miles. On the second day, they drove 190 miles. What is the least number of miles they drove on the third day if their average number of miles per day was at least 180?

21. Solve and graph $6x < 3x + 15$.

22. Mrs. Williams is deciding between two field trips for her class. The Science Center charges $135 plus $3 per student. The Dino Discovery Museum simply charges $6 per student. For how many students will the Science Center charge less than the Dino Discovery Museum?

23. Solve the inequality $-8(z + 6) \leq 2z - 8$.

24. Solve $-0.25 + 1.75x < -1.75 + 2.25x$.

25. Solve and graph the compound inequality.
$s + 4 < 1.5$ OR $3 + s \geq 7$

26. Write the compound inequality shown by the graph.
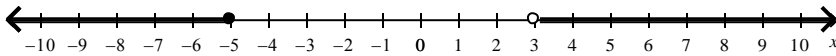
27. What is a solution of $x - 6 < 6$ AND $x + 4 \geq -1$?

Chapter 3 Exercises
Answer Section

NUMERIC RESPONSE

1. ANS: 5

    STA: A.7.B
2. ANS: 18
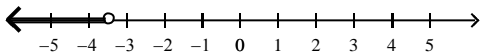
    STA: A.7.A

SHORT ANSWER

3. ANS:
    The value of y is a number less than 4.

    OBJ: 3-1.1 Identifying Solutions of Inequalities   STA: A.7.B
4. ANS:

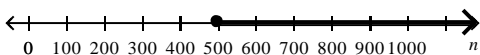   OBJ: 3-1.2 Graphing Inequalities   STA: A.7.B
5. ANS:
    $m \geq -3$

    OBJ: 3-1.3 Writing an Inequality from a Graph   STA: A.7.B
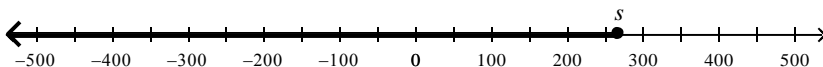6. ANS:
    $n \geq 500$

    OBJ: 3-1.4 Application   STA: A.7.B
7. ANS:
    $180 + s \leq 450;\ s \leq 270$
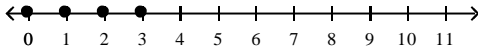

    STA: A.7.A
8. ANS:
    $n < -7.5$
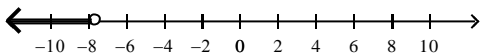
    OBJ: 3-2.1 Using Addition and Subtraction to Solve Inequalities

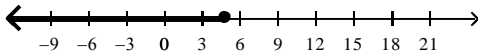9. ANS:
$s \leq 3$

OBJ: 3-2.2 Problem-Solving Application   STA: A.7.C

10. ANS:
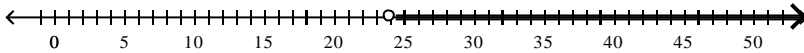$365 + d \geq 635;\ d \geq 270$

OBJ: 3-2.3 Application   STA: A.7.B

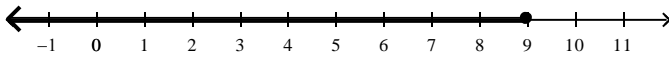11. ANS:
$x \leq 5\frac{2}{5}$

STA: A.7.B

12. ANS:
$x > 24$

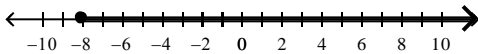OBJ: 3-3.1 Multiplying or Dividing by a Positive Number   STA: A.7.B

13. ANS:
$m \leq 9$

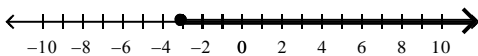OBJ: 3-3.1 Multiplying or Dividing by a Positive Number   STA: A.7.B

14. ANS:
$z \geq -8$

OBJ: 3-3.2 Multiplying or Dividing by a Negative Number   STA: A.7.B

15. ANS:
$g \geq -3$

OBJ: 3-3.2 Multiplying or Dividing by a Negative Number   STA: A.7.B
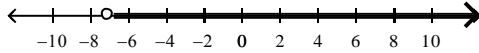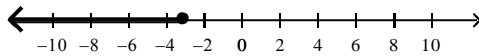
16. ANS:
5 tickets

17. ANS:
5

STA: A.7.B
18. ANS:
$n > -7$

-10 -8 -6 -4 -2 0 2 4 6 8 10

OBJ: 3-4.1 Solving Multi-Step Inequalities   STA: A.7.B
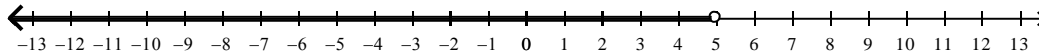19. ANS:
$z \leq -3$

-10 -8 -6 -4 -2 0 2 4 6 8 10

OBJ: 3-4.2 Simplifying Before Solving Inequalities
20. ANS:
200 mi

OBJ: 3-4.3 Application   STA: A.7.B
21. ANS:
$x < 5$

-13 -12 -11 -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10 11 12 13

OBJ: 3-5.1 Solving Inequalities with Variables on Both Sides   STA: A.1.C
22. ANS:
More than 45 students
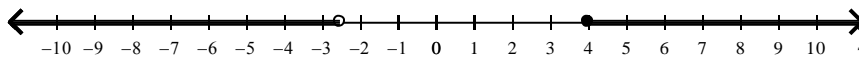
OBJ: 3-5.2 Application   STA: A.7.B
23. ANS:
$z \geq -4$

OBJ: 3-5.4 Identities and Contradictions   STA: A.7.B
24. ANS:
$3 < x$
25. ANS:
$s < -2.5$ OR $s \geq 4$

-10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10 s

OBJ: 3-6.3 Solving Compound Inequalities Involving OR   STA: A.7.B
26. ANS:
$x \leq -5$ OR $x > 3$

OBJ: 3-6.4 Writing a Compound Inequality from a Graph   STA: A.7.B

27. ANS:
2

STA: A.1.D