Name: _____

Sec. 6.1: Solve Inequalities Using Addition and Subtraction

Inequality: a mathematical sentence formed by placing one of the symbols $<$, $\leq$, $>$, or $\geq$ between two expressions

Examples: $x < 6$; $2y \leq 10$; $3m - 4z \geq 20$

Solution of an inequality: a value substituted for a variable in an inequality that makes that inequality _____

Example: $r > 4$

Graph of an inequality: in one variable, the set of points on a _____ _____ that represent all solutions of the inequality

- Determine whether to use a closed or open circle
- Determine whether to shade to the right or to the left

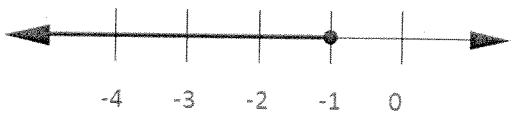
Example: $r > 4$

Equivalent inequalities: inequalities that have the _____ _____

Examples

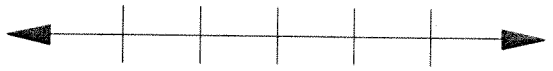
1. Write and graph an inequality that describes the situation: The entrance to a parking ramp has a clearance of 8 feet. (Describe the height of a vehicle that enters the ramp.)

2. Write the inequality represented by the graph.

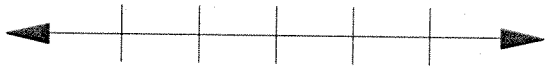


Name: _____

3. Solve $k + 8 > 14$. Graph your solution.



4. Solve $-3 > y + 5$. Graph your solution.



5. Students are allowed at most 3 tardies in a quarter without getting detention. Say that so far this quarter you have been tardy once. Write an inequality to show how many more times you can be tardy and not get a detention. Then solve and graph the inequality.

Name: _____

Sec. 6.1 Practice Problems

Write and graph an inequality that describes the situation.

1. The speed limit on a road is 100 kilometers per hour.

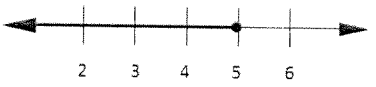
2. You must be more than 50" tall to go on a ride.

3. You must be at least 18 years old to vote.

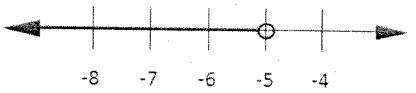
Write the inequality represented by the graph.

4.

5.



6.



Solve the inequality. Graph your solution.

7. $x + 8 < 15$

8. $4 \leq 7 + y$

9. $t + 5\frac{1}{3} > 8$

10. $3 + g \geq -8$

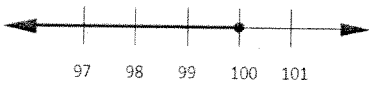
Name: _____

11. $r - 6 < -4$	12. $-8 \geq h - 2$
Write the verbal sentence as an inequality. Then solve the inequality and graph your solution.	
13. The sum of 12 and n is greater than 20.	14. 2 less than n is at most 14.
15. An amusement park offers customers a discounted admission price for groups of 20 or more. So far you have 13 people in your group. Write an inequality that represents the minimum number of additional people you need to get together in order to get the group rate. Then solve and graph the inequality.	

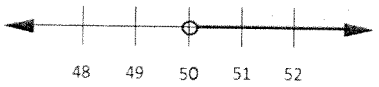
Name: _____

ANSWERS to Sec. 6.1 Practice Problems

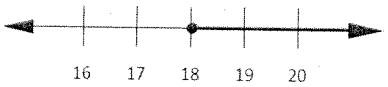
1. $s \leq 100$



2. $h > 50$



3. $a \geq 18$

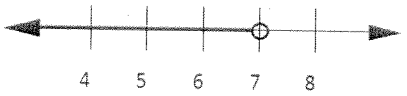


4. $x \geq 4$

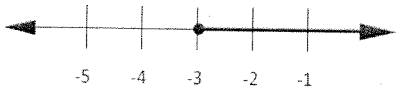
5. $x \leq 5$

6. $x < -5$

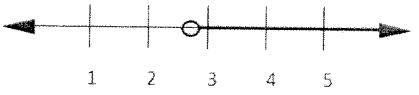
7. $x < 7$



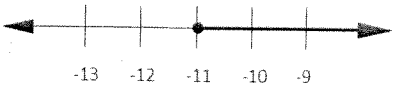
8. $y \geq -3$



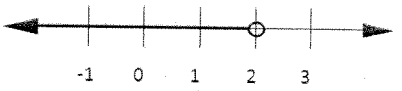
9. $t > 2\frac{2}{3}$



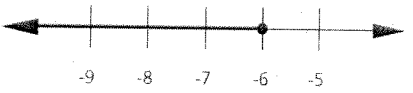
10. $g \geq -11$



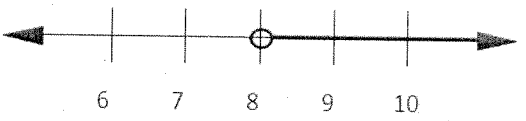
11. $r < 2$



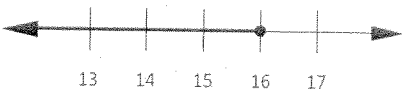
12. $h \leq -6$



13. $12 + n > 20$; $n > 8$



14. $n - 2 \leq 14$; $n \leq 16$



15. $n \geq 7$