

Name:
Instructor:

Date:
Section:

Practice Set 2.5

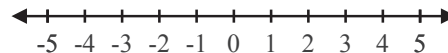
Use the choices below to fill in each blank.

$>$ or $<$	closed	negative	union	compound
\geq or \leq	open	positive	intersection	impound

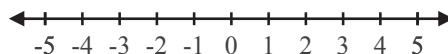
- When solving inequalities it is necessary to reverse the direction of the inequality symbol for _____ coefficients of the variable.
- When graphing $>$, $<$ inequalities the circle is _____.
- When graphing \geq , \leq inequalities the circle is _____.
- Two inequalities joined by the word *and* or *or* are called _____ inequalities.
- To find the solution set of an inequality containing the word *and*, take the _____ of the two inequalities.
- To find the solution set of an inequality containing the word *or*, take the _____ of the two inequalities.
- When giving an answer in interval notation, use (for the _____ symbol.
- When giving an answer in interval notation, use [for the _____ symbol.

Solve each inequality and graph the solution on a number line.

9. $2x + 3 < 5$



10. $2y - 5y \geq 3(-3y - 2)$



Solve each inequality and give the solution in interval notation.

11. $5 - 2x < 6 + 2x - 7$

12. $\frac{x-2}{3} - 2 \geq -2(x-1)$

11. _____

12. _____

13. $\frac{m}{3} - m + 5 \leq -\frac{3m}{4} + 5$

14. $\frac{5(x-3)}{4} > \frac{6(3-x)}{5}$

13. _____

14. _____

15. $-2 < x + 5 < 7$

16. $-15 \leq -3x + 2 \leq 7$

15. _____

16. _____

17. $4n + 7 < 23$ and $5n + 3 < 18$

18. $6y + 3 \geq 21$ and $2y - 6 \leq 10$

17. _____

18. _____

Practice Set 2.5

Solve each inequality and give the solution in interval notation.

19. $2x + 5 < 7$ or $2x + 4 > 10$ 20. $5j - 11 \leq 9$ or $-2j - 3 \leq 1$ 19. _____

20. _____

Solve each inequality and give the solution set

21. $2 < d + 1 < 8$ 22. $-9 \leq -3(2x - 1) \leq 15$ 21. _____

22. _____

23. $-2 \leq \frac{3(x-4)}{7} \leq 3$ 24. $\frac{4}{5} \leq \frac{-x-3}{4} \leq 2$ 23. _____

24. _____

25. $m + 3 < 5$ and $m + 3 > -5$ 26. $2w + 5 > -3$ and $8 - 3w < 17$ 25. _____

26. _____

27. $3x + 5 < 11$ or $-2x + 6 \leq -18$ 28. $5 - g < -3$ or $2g - 1 < -3$ 27. _____

28. _____

Problem Solving

29. The length plus the girth of a package to be shipped Standard Post by the U.S. Postal Service can be no greater than 130 inches. (The length is the largest dimension of the box. The girth is twice the width plus twice the height.) If the length of a package is 55 inches and the width is 16 inches, find the maximum allowable height of the package. 29. _____

30. To receive a C in Basic Algebra, John Oster must obtain an average of 70% or higher on five exams. If John scored 64%, 76%, 68%, and 73% on his first four tests, what is the minimum score he can receive on his fifth test to earn a C? 30. _____