

Compound Inequalities

Conjunction problems use the word _____, and disjunction problems use the word _____.

For conjunction problems, we are looking for an _____ of the graphs to determine the solution interval.

For disjunction problems, there is no _____ needed. Any area shaded is part of the solution interval.

Solve each inequality, sketch the graph for each and write the solution interval using interval notation.

1) $5 < 2x - 3 < 11$

2) $-1 < 5 - 3x \leq 14$

3) $-2 > 3x + 1 > 10$

4) $3 \leq 3 - 5(x - 3) \leq 8$

5) $2 \geq 4 - \frac{1}{2}(x - 8) \geq 10$

6) $-2 > \frac{1 - 3x}{-2} \geq 7$

7) $-1.2 \geq 1 - 0.02(x - 6.1) > 1.4$

8) $x < 5$ and $x > -3$

9) $x \leq 6$ or $x > -2$

Compound Inequalities Word Problems

10. Find three consecutive even integers whose sum is between 46 and 62.

11. Find three consecutive odd integers whose sum is between 75 and 91.

13. Find three consecutive even integers whose sum is between 80 and 91.

14. So far this season, Frank has scored 14, 18, 12, and 16 points in each of his last basketball games. How many points will Frank need to score in the next game if he wants to average 15 points per Game?

15. John received scores of 64, 72, 76, 70 and 80 on his last five exams. What will he need to score on the next exam to have an average of at least 74?