

LESSON
5.4**Practice B***For use with the lesson "Solve Compound Inequalities"***Translate the verbal phrase into an inequality. Then graph the inequality.**

1. All real numbers that are less than or equal to -3 and greater than or equal to -8



2. All real numbers that are greater than 5 or less than or equal to -1



3. All real numbers that are greater than or equal to -2.5 and less than 3.5

**Solve the inequality. Graph your solution.**

4. $-3 < x + 1 \leq 5$



5. $-7 < x - 8 < 2$



6. $-5 < -5x \leq 20$



7. $0 \leq 2(x - 3) < 8$



8. $3x + 2 < 8$ or $-x + 3 < -2$



9. $2(x + 4) < 6$ or $-x - 3 \leq -7$



10. $5x < -30$ or $x + 10 > 7$



11. $3x + 5 \leq 1$ or $8 - x < 5$



LESSON
5.4

Practice B *continued*
For use with the lesson "Solve Compound Inequalities"

Write the verbal sentence as an inequality. Then solve the inequality and graph your solution.

12. Three times x is less than -6 and greater than -21 .



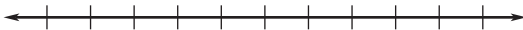
13. One less than x is less than -1 or 3 more than x is greater than or equal to 7.



14. The difference of $2x$ and 5 is greater than -3 and less than or equal to 11.



15. The sum of $3x$ and 1 is greater than -5 and less than or equal to 10.



16. **Temperature** The high temperature in a city last year was 95°F . The low temperature in this city last year was -5°F . Write and graph a compound inequality that represents the temperatures T throughout the year.



17. **Pollen Count** Weather forecasts will often give reports on the pollen count. For people suffering from allergies, the pollen count indicates the severity of their symptoms. If a pollen count is high, the severity of the symptoms are increased. The table shows ranges for high, medium, and low pollen counts. Write an inequality to find the range at which the pollen count is not medium.

Pollen Count	High	Medium	Low
Range	Greater than 8	Greater than 4 and less than or equal to 8	Less than or equal to 4

18. **Distances** You live 5 miles from work and the gym you go to is 3 miles from work.

- Find the minimum distance d between your home and the gym.
- Find the maximum distance d between your home and the gym.
- Write an inequality that describes the possible distances d between your home and the gym.

