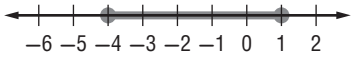
NAME _____ DATE _____ PERIOD _____

5-4 Practice

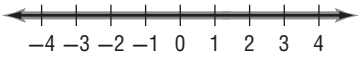
Solving Compound Inequalities

Graph the solution set of each compound inequality.

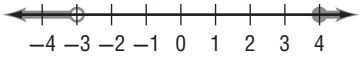
1. $-4 \le n \le 1$



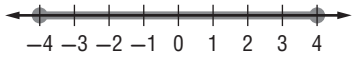
2. $x > 0$ or $x < 3$



3. $g < -3$ or $g \ge 4$

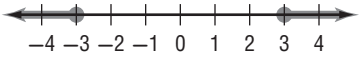


4. $-4 \le p \le 4$



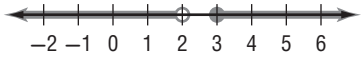
Write a compound inequality for each graph.

5.



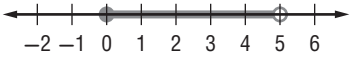
$x \le -3$ or $x \ge 3$

6.



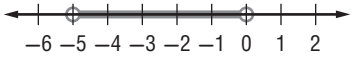
$x < 2$ or $x \ge 3$

7.



$0 \le x < 5$

8.

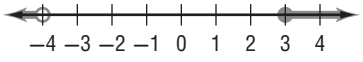


$-5 < x < 0$

Solve each compound inequality. Then graph the solution set.

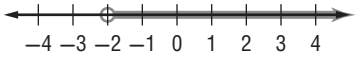
9. $k - 3 < -7$ or $k + 5 \ge 8$

$\{k \mid k < -4$ or $k \ge 3\}$



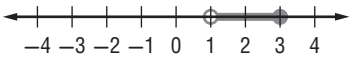
10. $-n < 2$ or $2n - 3 > 5$

$\{n \mid n > -2\}$



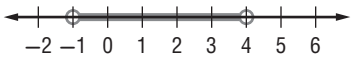
11. $5 < 3h + 2 \le 11$

$\{h \mid 1 < h \le 3\}$



12. $2c - 4 > -6$ and $3c + 1 < 13$

$\{c \mid -1 < c < 4\}$



Define a variable, write an inequality, and solve each problem. Check your solution. 13–14. Sample answer: Let n = the number.

13. Two times a number plus one is greater than five and less than seven.

$5 < 2n + 1 < 7$; $\{n \mid 2 < n < 3\}$

14. A number minus one is at most nine, or two times the number is at least twenty-four.

$n - 1 \le 9$ or $2n \ge 24$; $\{n \mid n \le 10$ or $n \ge 12\}$

15. METEOROLOGY Strong winds called the prevailing westerlies blow from west to east in a belt from 40° to 60° latitude in both the Northern and Southern Hemispheres.

a. Write an inequality to represent the latitude of the prevailing westerlies.

$\{w \mid 40 \le w \le 60\}$

b. Write an inequality to represent the latitudes where the prevailing westerlies are *not* located. **$\{w \mid w < 40$ or $w > 60\}$**

16. NUTRITION A cookie contains 9 grams of fat. If you eat no fewer than 4 and no more than 7 cookies, how many grams of fat will you consume?

between 36 g and 63 g inclusive