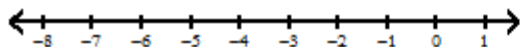


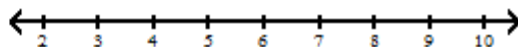
## Solving Compound Inequalities

Solve each compound inequality and graph its solution.

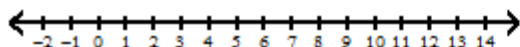
1)  $n + 7 \geq 5$  or  $-2 + n \leq -6$



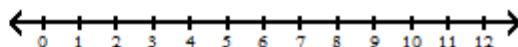
2)  $10x + 4 > 64$  or  $9 - x \geq 4$



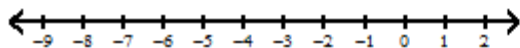
3)  $8 + 3b < 11$  or  $-7 + 10b > 93$



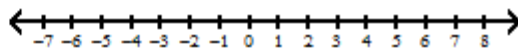
4)  $4 - 7r < -45$  or  $10r - 3 < 37$



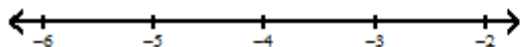
5)  $-8 \leq n - 1 < 0$



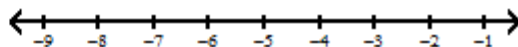
6)  $-8 + 10a > -68$  and  $9 + 8a < 57$



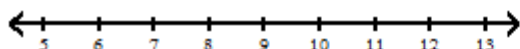
7)  $-23 \leq 4x - 3 \leq -15$



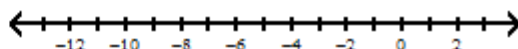
8)  $-4 + 2v \geq -20$  and  $7v - 5 < -19$



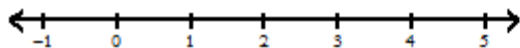
9)  $2x + 2 < 22$  and  $-3x + 3 < -18$



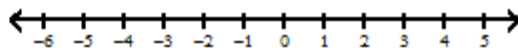
10)  $2k - 7 \geq -7$  or  $-2k - 4 > 12$



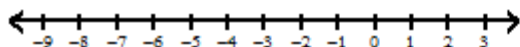
11)  $-3 \leq 5 - 2a < 1$



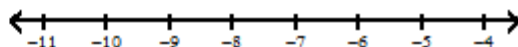
12)  $x - 5 \leq -2$  and  $3 - 7x < 31$



13)  $5 + 7n > -37$  and  $6 - 5n \geq 6$



14)  $-15 < 2p + 5 < -9$



**For numbers 15 and 16, write a compound inequality for each situation.**

- 15) Two times a number plus one is greater than five and less than seven.
- 16) A number minus one is at most nine, or two times the number is at least twenty-four.
- 17) **METEOROLOGY** Strong winds called the prevailing westerlies blow from west to east in a belt from  $40^\circ$  to  $60^\circ$  latitude in both the Northern and Southern Hemispheres.
- a. Write an inequality to represent the latitude of the prevailing westerlies.
- b. Write an inequality to represent the latitudes where the prevailing westerlies are *not* located.
- 18) **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?
- 19) **RAINFALL** In 90% of the last 30 years, the rainfall at Shell Beach has varied no more than 6.5 inches from its mean value of 24 inches. Write and solve an absolute value inequality to describe the rainfall in the other 10% of the last 30 years.
- 20) **MANUFACTURING** A company's guidelines call for each can of soup produced not to vary from its stated volume of 14.5 fluid ounces by more than 0.08 ounces. Write and solve an absolute value inequality to describe acceptable can volumes.