

# 1.6 Linear Inequalities

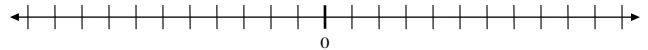
**Inequalities:** A way of describing a \_\_\_\_\_ or \_\_\_\_\_ value.

- To solve inequalities, treat the problem as if it were a normal equation.
- Remember to \_\_\_\_\_ the symbol if multiplying or dividing by a \_\_\_\_\_.



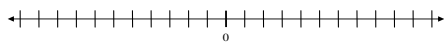
Open or Closed Circle: Shade to the right or left?	Open or Closed Circle: Shade to the right or left?	Open or Closed Circle: Shade to the right or left?	Open or Closed Circle: Shade to the right or left?
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**Example 1:** Solve for  $9 - 4t > 21$ . Check your solutions.

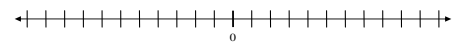


**You Try!** What are the solutions of the inequality? Check your solutions.

a)  $-6a - 7 \leq 17$



b)  $-4 < 5 - 3n$

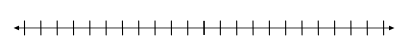


**Example 2:** Solve for each solution.

a)  $3(t+1) - 4t \geq -5$



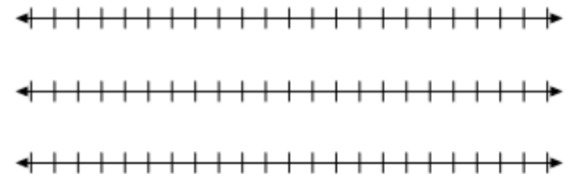
b)  $6n - 1 > 3n + 8$



**Compound Inequality:** A relationship of two distinct inequalities joined by the words \_\_\_\_\_ or \_\_\_\_\_.

<b>“AND” Inequalities</b>	<b>“OR” Inequalities</b>
Two graphs _____ or come together	Two graphs shoot off in _____ directions

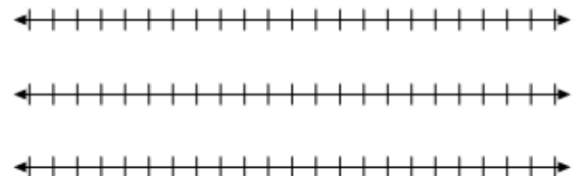
**Example 3:** What are the solutions of  $-3 \leq m - 4 < -1$ ? Graph the solutions.



**You Try!** What are the solutions of  $-3 < \frac{2x+1}{5} \leq -1$ ? Graph the solutions.



**Example 4:** What are the solutions of  $3t + 2 < -7$  or  $-4t + 5 < 1$ ? Graph the solutions.



**Example 3:** What are the solutions of  $\frac{4y+2}{5} - 5 > 3$  or  $\frac{4-3y}{6} > 4$ ? Graph the solutions.

