6.1: Solving Inequalities Using Addition and Subtraction
Goals:

        *Graph inequalities on a number line

                - Decide if the circle is open or closed

                - Decide which direction the arrow should point

        *Solve one-step inequalities using addition and subtraction

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For each example below, list five numbers that x could be:

      $x \geq 5$ means that x could be:

      $x < -1$ means that x could be:

To Graph a Number on a number line:

      1.

      2.   Put an open or closed circle.

              Choose an open circle _____ if the inequality is:

              Choose a closed circle _____ if the inequality is:

      3.

Graph the following inequalities on a number line:

      Ex: Graph $x < 3$.

      Ex: Graph $x \geq -1$

      Ex: Graph $5 \geq x$

Solving inequalities using addition and subtraction:

Ex: $x - 1 > 2$

Solve and graph solution on a number line:

Ex: $x - 9 \leq 3$ **Ex:** $p - 9 < 5$ **Ex:** $-1 \geq m - 2$

Ex: $9 \geq x + 7$ **Ex:** $y + 5 > 6$

Ex: You are checking a bag at an airport. Bags can weigh no more than 50 pounds. Your bag currently weighs 16.8 pounds and you plan on adding w pounds to your bag in travel items.
   a) Write an inequality to represent the situation.

   b) Find the possible weights w that you can add to the bag.