## Practice – 2

Once you feel confident with interval notation, complete problems 1 to 8. Check your answers by going to the Solutions tab in Moodle.

Instructions: Answer each of the following practice questions on a separate piece of paper. Step by step solutions are provided under the Solutions tab. You will learn the material more thoroughly if you complete the questions before checking the answers.

1. In the previous question, the domain and range of $y = g(t)$ were expressed in set builder notation. Now write the function's domain and range in interval notation.

2. Express the interval represented by the graph below as an inequality and using interval notation. Is this an open, closed or semi-open interval? Explain.
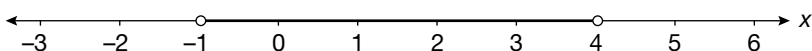
3. Express the interval represented by the graph below as an inequality, using interval notation and using set builder notation. Is this an open, closed or semi-open interval? Explain.
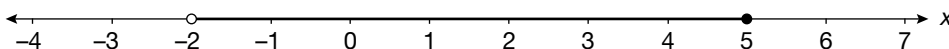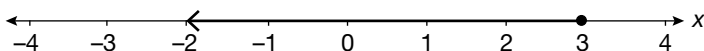

4. Sketch a graph of the following intervals and express each as an inequality.

    a. $(-2, 4)$

    b. $[3, 7)$

    c. $\left[-\frac{1}{2}, \pi\right]$

5. Using the graph below write the corresponding inequality and express the solution by using interval notation.

6. Sketch a graph of the solution set represented by $\{x \mid x > 2, \ x \in R\}$. Express the set using interval notation.

7. Using interval notation, how could you express all real numbers? *(Hint: This set includes all numbers from negative infinity to positive infinity.)*

8. Represent the inequality $x \geq 6$ with a number line and using interval notation.