Name _____ Date _____

<u>Practice 1.1, 1.2</u>: Relationships between number sets

1. List <u>all</u> the number sets that the following values belong to.
(complex, real, imaginary, rational, irrational, integers, whole, natural)

a. 17

b. $\sqrt{-4}$

2. What is the most specific number set each of the following values belongs to.

a. -8 **b.** $\sqrt{9}$ **c. 0** **d. 2 – 5i**

e. 1, 256 **f. -7i** **g. 4π** **h.** $\sqrt{2}$

3. Write an inequality to represent the given interval and state whether the interval is bounded or unbounded.

a. [-1, 3) **b. (-∞, 7]** **c. [3, 7]** **d. (2, ∞)**

4. Write each inequality in interval notation. Then graph it on a number line.

a. $x < 4$ **b. $x \geq 2$** **c. $x > -1$** **d. $x \leq -3$**

e. $-1 < x < 3$ **f. $0 \leq x \leq 6$** **g. $-7 \leq x < 2$** **h. $8 < x \leq 11$**

5. Write the intervals graphed below in both interval and inequality notation.

a.
```
          [----------------→
←————————+————————→
        -2   0
```

b.
```
          (-------------]
←————————+————————→
       -5      0     4
```