

**2.1 – 2.2**

1. List the members of the set  
 $\{ x \mid x \text{ is the square of an integer and } x < 100 \}$
  
2. Use the set-builder notation to give a description of each of these sets.
  - a)  $\{ 0, 3, 6, 9, 12 \}$
  - b)  $\{ -3, -2, -1, 0, 1, 2, 3 \}$
  - c)  $\{ m, n, o, p \}$
  
3. Determine whether each of these pairs of sets are equal.
  - a)  $\{ 1, 3, 3, 3, 5, 5, 5, 5 \}, \{ 5, 3, 1 \}$
  - b)  $\{ \{1\} \}, \{ 1, \{1\} \}$
  
4. Determine whether these statements are true or false.
  - a)  $\emptyset \in \{ \emptyset \}$
  - b)  $\{ \{ \emptyset \} \} \subset \{ \{ \emptyset \}, \{ \emptyset \} \}$
  - c)  $x \in \{ x \}$
  - d)  $\{ x \} \in \{ \{ x \} \}$
  - e)  $\{ x \} \subseteq \{ x \}$
  - f)  $\emptyset \subseteq \{ x \}$
  - g)  $\{ x \} \in \{ x \}$
  - h)  $\emptyset \in \{ x \}$