Name;_____ Date: _____

Quiz 3

1) Use either list notation or set builder notation to express the given sets

The set of elements 2, 4, 6	
The set consisting of the elements {1], {4}.	
The set of real solutions to the equation $x^3 - 4x^2 + 5x - 6 = 0$;	
The set of integers less than -10.	

2) Express the given sets in interval notation

The set of real numbers x such that x > 1.	
The set of real numbers x such that -1 < x and 1 > x.	

3) List which of the relations by inserting the symbol for "element of," "proper subset of," "subset," or "equals"can be used to replace the symbol ◊.

Relation	Symbol(s) that can be used to replace the symbol ◊.
{1} ◊ {1, 2}	
{6, 7, 8} ◊ { 8, 7, 6}	
{3} ◊ {3, {3}, {{3}}}	

4) Determine whether or not the set is finite/infinite and list the cardinality for any finite sets.

Set	Infinite or Cardinality
C = [5, 6]	
E = {n:n ε N and $n \leq 8$}	
G = {Φ, {Φ}}	

5) Determine a simplified circuit for S = (p ^ q) v ¬q. *Show your work.*