CSCI 1900 - Homework 2-B

**Section 1.1: Sets and Subsets** *(26 points)*

1. Let . Identify each of the following as True or False. (4)
	1. 0  *A*
	2. 9  *A*
	3. 3.14  *A*
	4. -1  *A*
2. Let . (2)
	1. Describe the set by enumeration.
	2. Describe the set with an English sentence.
3. Let . (1)
	1. Describe the set *C* by specifying the properties of its elements.
4. Give all the subsets of the set {*7*, *11* }. (1)
5. Give all of the subsets of $ \left\{ \right\}$. (1)
6. Let . (5)

Identify each of the following as True or False

* 1. {1, 2, 3, 4} $⊆$ *D*
	2. {-4, 3, -2, -5} $⊆$ *D*
	3. $ϕ⊆$ *D*
	4. $\left\{ x \in Z and \left|x\right| \leq 5\right\}$
	5. *D*$ ⊆ \left\{-3, -2, -1, 0, 1, 2, 3\right\}$
1. Find the cardinality of the smallest set that has the following sets as subsets (1)

$$\left\{ 1, 3 \right\}, \left\{ 1, 4, 5 \right\}, \left\{ 2, 7 \right\}, \left\{1, 2, 5, 7,9\right\}$$

1. By referring to the Venn diagram, identify each of the statements as True or False. (8)

U

A

B

D

.a

.b

.d

* 1. $A ⊈B$
	2. $D⊈A$
	3. $B⊂D$
	4. $D ⊆B$
	5. $d \in A$
	6. $b \notin A$
	7. $a ⊆A$
	8. $d\notin B$
1. Let . (3)
	1. Give *P(E)*.
	2. What is | *E* | ?
	3. What is | *P(E)* | ?