

1. Suppose you have sets A and B defined by  $A = \{1, 2, 3, 4\}$  and  $B = \{0, 1, 2, 3\}$ . Which one of the following set relations is true?

(3 points)

A.  $A \subset B$

B.  $B \subset A$

✓ C.  $A \Delta B = \{0, 4\}$

D.  $A \cap B = \{2, 3\}$

2. Suppose  $A = \{1, 2, 3, 4, 5, 7, 8, 10, 11, 14, 17, 18\}$ . How many subsets of  $A$  contain only odd integers?  
(3 points)

A. 15

B. 31

✓ C. 63

D. 127

3. Which set below is nonempty?  
(3 points)

A. All integers  $x$  such that  $3x+5=9$

B. All real numbers  $x$  such that  
 $x^2+6=4$

✓ C. All irrational numbers  $x$  such that  
 $x^2+4=6$

D. All natural numbers  $x$  such that  $2x+7=3$