

SETS REVISION

Some Sets Facts:

- Union of a set A and its complement A' is always the universal Set ξ . ie. $A \cup A' = \xi$
- Intersection of a set A and its complement A' is always the empty or null set. ie. $A \cap A' = \phi$ or $\{\}$
- The empty set is a subset of every set.
ie. $\{\} \subset$ every set
- $\in$ – *element of or a member of*

Choose True or False:

1. If $M = \{1,2,3,4,5,6,7,8\}$ and $N = \{5,7,9,11,13\}$
 - a) $5 \in M$
 - b) $11 \notin N$
 - c) $7 \in (M \cup N)$
 - d) $N \subset M$
 - e) $\{5,6,7\} \subset M$
 - f) $\{\} \subset N$
 - g) $n(M) = 6$
 - h) $7 \in M \cap N$
 - i) $3 \in M \cap N$
 - j) $\phi \notin M$

2. If $\xi = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$

$A = \{1, 3, 5, 7, 9\}$

$B = \{7, 8, 9, 10, 12, 14, 16, 18, 20\}$

and $C = \{x: x \in I, 10 \leq x < 20\}$ find:

a) A'

b) C

c) $A \cap B$

d) $A \cup B$

e) $B \cap C$

f) $A \cap C$

g) $n(A \cup B)$

h) $n(C)$

i) Is $20 \in B$?

j) Is $\{15, 17, 20, 25\} \subset C$?

k) $(A \cup B) \cap C$

l) Is $A \subset (B \cup C)$?