

Quiz 1



Discrete Mathematics

Name : Model Answer.

2014/2015

Question (1): (a) Find the truth set of the following set where the domain is the set of integers $P(x) : x^2 < 3$

✓ $\{-1, 0, 1\}$

(b) : List the members of this set $\{x : x \text{ is the square of integer and } x < 90\}$

✓ $\{0, 1, 4, 9, 16, 25, 36, 49, 64, 81\}$

Question (2): Determine whether these statements are true or false.

- ✓
- 1) $m \in \{a, m, n\}$ True
 - 2) $\{t, s\} \subset \{s, \{s\}, \{s, t\}, \{t\}\}$ False
 - 3) $\{\{0\}\} \subseteq \{0\}$ False

Question (3): Prove the following identity : $(A \cap B) \cup (A \cap \bar{B}) = A$
by membership table

✓

A	B	$A \cap B$	\bar{B}	$A \cap \bar{B}$	$(A \cap B) \cup (A \cap \bar{B})$
1	1	1	0	0	1
1	0	0	1	1	1
0	1	0	0	0	0
0	0	0	1	0	0

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