

QUIZ 2

(Math 258)

1. Let $A = \{1, 2, 3, 4, 5\}$ and $B = \{0, 3, 6\}$. Find: (5 pts)

(a) $A \cup B$

(b) $A \cap B$

(c) $A - B$

(d) $B - A$

(e) $P(A \cap B)$

2. Show that for any set A , we have $\overline{\overline{A}} = A$. (3 pts)

3. Show that for any set A , we have $\overline{\emptyset - A} = \emptyset$. (4 pts)

4. Show that for any sets A and B , we have $A - B = A \cap \overline{B}$. (4 pts)

5. The **successor** of a set A is the set $A \cup \{A\}$. Find the successors of the following sets: (4 pts)

(a) $\{\emptyset\}$

(b) $\{\emptyset, \{\emptyset\}\}$

How many elements does the successor of a set with n elements have?