

WORKSHEET 1

Date: 6/21/2021

Name:

Definitions

DEFINITION 1 (Set).

DEFINITION 2 (union).

DEFINITION 3 (intersection).

DEFINITION 4 (subset).

DEFINITION 5 (equality of sets).

DEFINITION 6 (empty set).

Practice Problems

1. Let $A = \{a, b, c\}$, $B = \{c, h\}$, $C = \{a, d\}$. Draw a "venn diagram" for each question below, then compute the "operation".

(a) $A \cup B$

(b) $A \cap B$

(c) $A \setminus B$

(d) $A \cap B \cap C$

(e) $A \setminus (B \cup C)$

2. Decide whether each of the following statements are true or false:

(a) $\{1, 2, 3, \pi\} \subseteq \{1, 2, 3, 4, 5\}$

(b) $\emptyset \subseteq \emptyset$

(c) $\emptyset = \{\emptyset\}$

(d) $\{a, b\} \in \{\{a, b, c\}, a, b\}$

(e) $\{a, b\} \subseteq \{\{a, b, c\}, a, b\}$

3. Is the empty set unique?