

Name: _____

June 20, 2017

FINITE MATH: QUIZ 1

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- The Honor Code is in effect for this quiz. All work must be your own.
- Please turn off all cellphones or any other electronic devices.
- Calculators are NOT allowed.
- One point is given for free.
- The quiz lasts 6 minutes.

Problem 1. Suppose the universal set is $U = \{1, 2, 3, \dots, 10\}$. Consider the sets

$$A = \{1, 2, 3, 4\}, \quad B = \{3, 4, 5, 6, 7\}, \quad C = \{2, 3, 8, 9\}, \quad \text{and} \quad D = \{3, 7, 9, 10\}.$$

- a) (1 pt) List the elements of the set $A \cup C$.

- b) (1 pt) List (if any) the elements of the set $A \cap B$, or state if it is empty.

- c) (1 pt) What are the elements of the set B' ?

- d) (1 pt) List the elements of the set $B \cup B'$.

- e) (1 pt) List (if any) the elements of the set $B \cap B'$, or state if it is empty.

- f) (1 pt) List (if any) the elements of the set $A \cap B \cap C \cap D$, or state if it is empty.

- g) (1 pt) Find $B \setminus D$.

Problem 2. (1 pt) Is it true that any set S is **disjoint** from its complement S' ? Circle one.

YES

NO

Problem 3. (1 pts) List (if any) the elements of the set $\{x \mid x^2 = -1\}$, or state if it is empty. Explain.