

LEMOYNE-OWEN COLLEGE
DIVISION OF NATURAL SCIENCES, MATHEMATICS AND COMPUTER SCIENCE

MATH 120
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Quiz 2

Show your work

Name: _____

Problems 1 to 8 refer to the following sets.

Let $U = \{ a, e, i, o, u \}$

$$A = \{ a, e \}$$

$$B = \{ e, i, o \}$$

$$C = \{ u \}$$

$$D = \{ u, i, a \}.$$

1. Fill each blank with either \in or \notin to make the following statements true.

(a) a _____ D

(b) e _____ C

2. (a) Is the statement $A \subseteq U$ true? Why?

(b) Is the statement $D \subset B$ true? Why?

(c) List all subsets of A.

(d) Find the number of subsets of C.

3. Find $B \cup D$.

4. Find $A \cap B$.

5. Find C' .

6. Find $C - D$.

7. Find $A \cap \phi$.

8. Find $(A \cup C)'$.

9. Whether $\{ Austin, Roger \} = \{ Roger, Austin \}$? Why?

10. Find $n(E \cup F)$, the number of elements in $E \cup F$, if $n(E) = 15$, $n(F) = 6$ and $n(E \cap F) = 5$.