

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

MATH 120
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Tuesday
July 16, 2002

Quiz 2

Show your work

Name: _____

Problems 1 to 8 refer to the following sets.

Let $U = \{ 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 \}$

$$A = \{ 0, 8 \}$$

$$B = \{ 1, 3, 5, 7, 9 \}$$

$$C = \{ 2, 4, 6, 8 \}$$

$$D = \{ 2, 4, 8 \}.$$

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

(a) 8 _____ D

(b) 7 _____ 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 $\{ 1, 2 \} = \{ 2, 1, 1 \}$? Why?

10. Find $n(E \cup F)$, the number of elements in $E \cup F$, if $n(E) = 13$, $n(F) = 8$ and $n(E \cap F) = 3$.