

MA 162 Recitation Worksheet Thursday 26th October 2014

- Let $U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$, $A = \{1, 3, 5, 7, 9\}$, $B = \{2, 4, 6, 8, 10\}$, $C = \{1, 2, 4, 5, 8, 9\}$. List the elements of each set.
 a. A^c b. $B \cup C$ c. $C \cup C^c$ d. $(A \cap B) \cup C$ e. $(A \cup B \cup C)^c$ f. $(A \cap B \cap C)^c$
- Let U denote the set of all employees in a hospital, and let

$$N = \{x \in U \mid x \text{ is a nurse}\}$$

$$D = \{x \in U \mid x \text{ is a doctor}\}$$

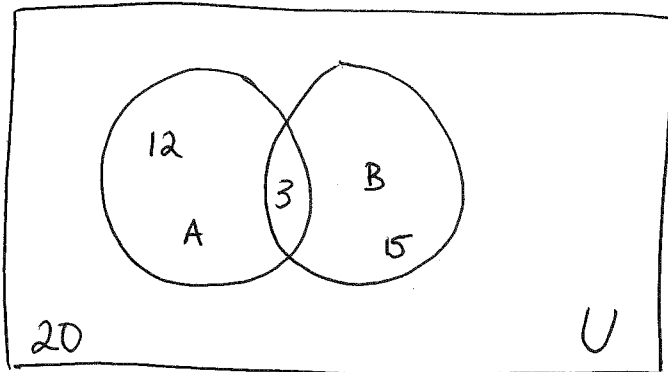
$$A = \{x \in U \mid x \text{ is an administrator}\}$$

$$M = \{x \in U \mid x \text{ is a male}\}$$

$$F = \{x \in U \mid x \text{ is a female}\}$$

Describe the following sets in words.

- D^c
- N^c
- $N \cup D$
- $N \cap M$
- $D \cap M$
- $D \cap M^c$



- Refer to the above Venn diagram. Find
 a. $n(A)$ b. $n(A \cup B)$ c. $n(A^c \cap B)$ d. $n(A \cap B^c)$ e. $n(U)$ f. $n[(A \cap B)^c]$
- In a poll conducted 200 active investors, it was found 120 use discount brokers, 126 full-service brokers, and 64 use both discount and full-service brokers. How many investors
 a. Use at least one kind of broker?
 b. Use exactly one kind of broker?
 c. Use only discount broker?
 d. don't use a broker
- In a survey of 200 households regarding the ownership of desktop and tablet computers, the following information was obtained:

120 household own only desktop computers.
 10 households own only tablet computers.
 40 households own neither desktop nor tablet computers.

How many households own both desktop and tablet computers?