

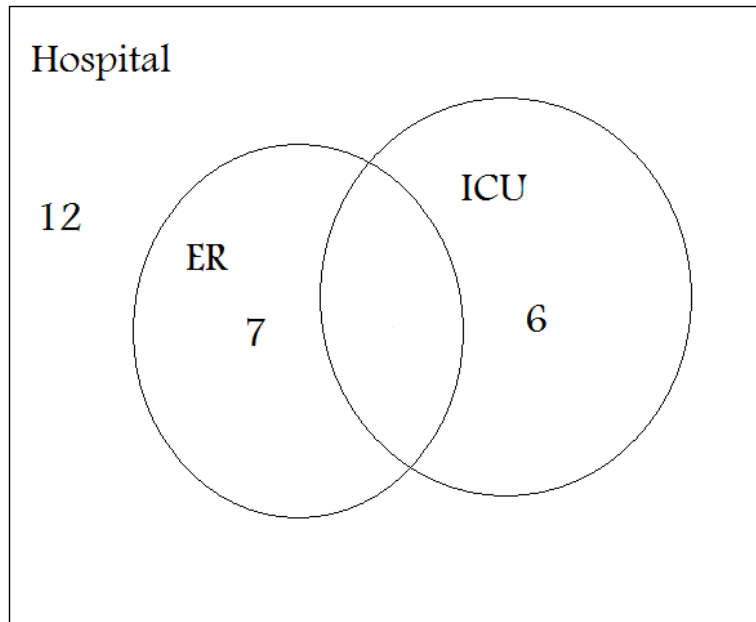
Name: \_\_\_\_\_

Date: \_\_\_\_\_

## QUIZ – PROBABILITY

1. (20%) 2 Dice are tossed.
  - a. (10%) Sketch a corresponding lattice diagram
  - b. (10%) Find the probability to obtain a sum of less than 6 on tossing 2 dice.
  
2. (26%) In a certain classroom the teachers studies the results of the students and finds out that 40% of the students obtains B or more in math. The teacher also finds out that in case you obtain B or more in Math you have an 80% probability of obtaining B or more in economics. In case you obtained less than B in math students have 10% probability of obtaining B or more in economics.
  - a. (10%) Sketch a tree diagram to describe this information
  - b. (8%) Find the probability of succeeding in Math and economics.
  - c. (8%) Given that Diane obtained a C in Math, find her probability to obtain B or more in Math.

3. (30%) The following Venn diagram describes the number of nurses working in a certain hospital (ER – Emergency Room. ICU – Intensive Care Unit).



- a. (10%) It is known that 8 nurses work in both ER and ICU, add the number 8 in the corresponding place in the diagram.
  - b. (10%) Find the probability of nurse to work in the ICU only.
  - c. (10%) Given that a Nurse works in the ER, find his/her probability to work also in the ICU.
4. (24%) Given that  $P(A \cup B) = 0.73$ ,  $P(A) = 0.41$ ,  $P(B') = 0.48$
- a. (10%) Find  $P(A \cap B)$
  - b. (8%) Are A and B independent events? Why?
  - c. (6%) Are A and mutually exclusive? Why?