

Math 112 - Quiz 3

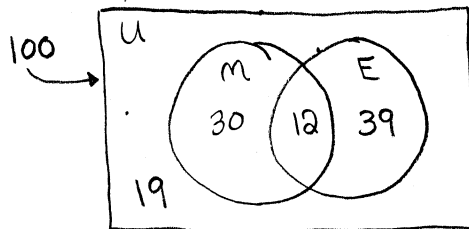
February 14, 2018

Name key

Score _____

Show all work to receive full credit. Supply explanations when necessary.

1. (5 points) In a survey of 100 randomly selected students, 42 are taking a math class, 51 are taking an English class, and 12 are taking both. Sketch the corresponding Venn diagram.



$$42 - 12 = 30$$

$$51 - 12 = 39$$

$$30 + 12 + 39 = 81$$

$$100 - 81 = 19$$

- (a) How many students are taking a math class or an English class?

$$30 + 12 + 39 = \boxed{81}$$

- (b) How many students are taking neither a math class nor an English class?

$$\boxed{19}$$

2. (5 points) A court record search of 250 incoming freshman at a state university shows that

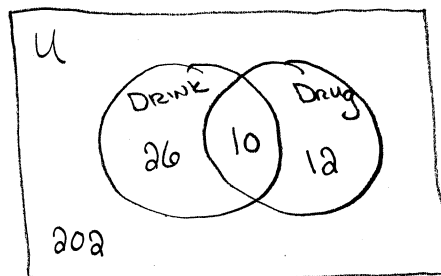
- 26 had been arrested for underage drinking but not drug possession,
- 12 had been arrested for drug possession but not underage drinking,
- 202 had not been arrested for either offense.

Sketch the corresponding Venn diagram.

$$250 - 202 = 48$$

$$48 - 26 - 12 =$$

250



- (a) How many had been arrested for underage drinking?

$$26 + 10 = \boxed{36}$$

- (b) How many had been arrested for drug possession?

$$10 + 12 = \boxed{22}$$