

Student: \_\_\_\_\_  
Date: \_\_\_\_\_  
Time: \_\_\_\_\_

Instructor: James Howard  
Course: MATH 106 -- Fall 2012 OL4  
Book: University of Maryland University  
College: MAT106: Finite Mathematics

Assignment: Quiz 4

1. Indicate whether the statement is true or false.

$$\{a, h, j, k\} = \{j, k, h, a\}$$

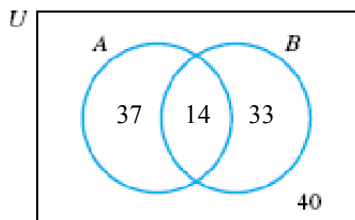
Choose the correct answer below.

- True  
 False

2. Each of 2 countries sends 5 delegates to a negotiating conference. A rectangular table is used with 5 chairs on each long side. If each country is assigned a long side of the table (operation 1), how many seating arrangements are possible?

The number of possible seating arrangements is .

3. Refer to the Venn diagram below. How many elements are in the set  $U$ ?



There are  elements in the set  $U$ .

4. Politics. If 10,780 people voted for a politician in his first election, 12,410 voted for him in his second election, and 5,688 voted for him in the first and second elections, how many people voted for this politician in the first or second election?

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5. A fruit grower can use two types of fertilizer in her orange grove, brand A or brand B. The amounts (in pounds) of nitrogen, phosphoric acid, and chloride in a bag of each brand are given in the table. Tests indicate that the grove needs at least 1350 pounds of phosphoric acid and at most 500 pounds of chloride. Answer parts (A) and (B) below.

	Pounds per Bag	
	Brand A	Brand B
Nitrogen	5	9
Phosphoric Acid	3	3
Chloride	2	1

(A) If the grower wants to maximize the amount of nitrogen added to the grove, how many bags of each mix should be used? How much nitrogen will be added?

The grower should add  bags of brand A and  bags of brand B to maximize the amount of nitrogen added.

The maximum amount of nitrogen that will be added is  pounds.

(B) If the grower wants to minimize the amount of nitrogen added to the grove, how many bags of each mix should be used? How much nitrogen will be added?

The grower should add  bags of brand A and  bags of brand B to minimize the amount of nitrogen added.

The minimum amount of nitrogen that will be added is  pounds.