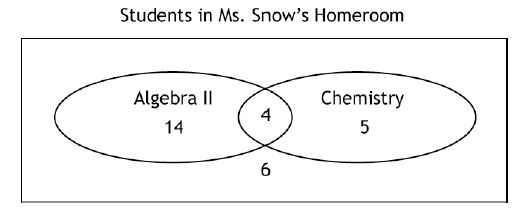
**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_**

**Probability: Determining Probabilities**

II.A Student Activity Sheet 1: Using Venn Diagrams

Ms. Snow conducted a survey of her homeroom. She asked students what math course and what science course they were taking this semester. Below are the results.

****

**1.** Analyze the data in the Venn diagram and list five facts that you can determine about Ms. Snow’s homeroom.

I)

II)

III)

IV)

V)

**2.** Use **mathisfun.com** to answer the following:

1. What is probability?
2. How do you find it?

**3.** If a student is selected at random from Ms. Snow’s homeroom, what is the probability that the student is taking both Algebra II and Chemistry? Explain your reasoning.

**4.** If a student is selected at random from Ms. Snow’s homeroom, what is the probability that the student is not taking Algebra II **or** Chemistry? Explain your reasoning.

**5.** Find the probability P(Algebra II or Chemistry). Explain your reasoning.

**6.** Use **mathisfun.com** to answer the following:

1. What is conditional probability?
2. How do you find it?

**7.** Find the probability of a student taking Chemistry, given that the student is not taking Algebra II, or P(Chemistry/not taking Algebra II).

Students survey 758 spectators at a national championship tennis match. The survey results

indicate the following:

• 421 are male,

• 256 have a two-handed backhand swing, and

• 176 of the people with a two-handed backhand swing are female.

Label the Venn diagram using the data provided.

**Male**

**Two-Handed Back Swing**

**8.** What is the probability that a person selected at random from the survey group is male?

Explain your reasoning.

**9.** What is the probability that a person selected at random from the survey group is

female? Explain your reasoning.

**10.** What is the probability that a person selected randomly from the survey group has a two -handed backhand swing? Explain your reasoning.

**11.** What is the probability that a person selected randomly from the survey group is a male

or has a two-handed backhand swing? Explain your reasoning.

**12.** What is the probability that a person selected randomly from the survey group does not

have a two-handed backhand swing, given that the person is male, or P(no two-handed

backhand/male)?

**13. REFLECTION:** Describe the characteristics of a situation that suggest the usefulness of a

Venn diagram as a model of the situation.

**14. EXTENSION:** Describe a situation that could be modeled with a Venn diagram and

create the diagram. Use the diagram to determine the probability of at least two

events that are possible in the situation.