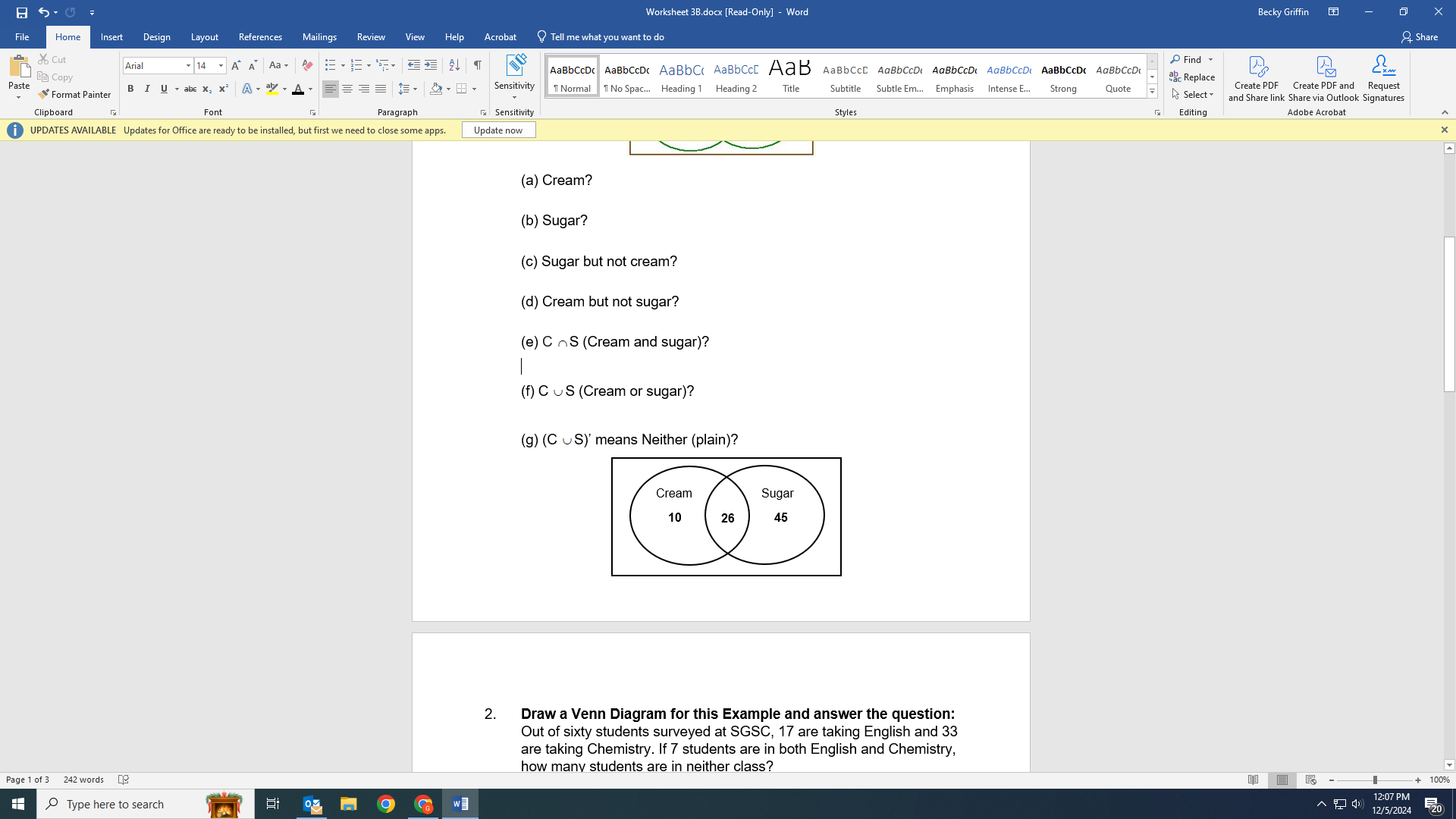
**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_**

**ANSWER KEY**

**Worksheet 3**

**Complete the following problems using your Notes on Logic and Venn Diagrams. Show your work when necessary.**

1. **Venn Diagram Example*:*** Dr. Thornton asked 100 coffee drinkers whether they like cream or sugar in their coffee. According to the Venn diagram below, how many like



(a) Cream? 36

(b) Sugar? 71

(c) Sugar but not cream? 45

(d) Cream but not sugar? 10

(e) C S (Cream and sugar)? 26

(f) C S (Cream or sugar)? 81

(g) (C S)’ means Neither (plain)? 19

2. **Draw a Venn Diagram for this Example and answer the question:** Out of sixty students surveyed at SGSC, 17 are taking English and 33 are taking Chemistry. If 7 students are in both English and Chemistry, how many students are in neither class?

17

Chemistry

English

26

7

10

3. Identify the set(s) of numbers to which each given number belongs from the following sets N W Z Q I R.

(a) N W Z Q R

(b) 1.2 Q R

(c) -7 Z Q R

(d) Q R

(e) π I R

4. Name the elements in the given sets:

1, 2, 4, 5, 7, 8

B

A

1. Set A = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1 6

C

2 4

7 8

0, 3, 5, 8, 9

1. Set C = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**5 3**

**0 9**

0, 3, 6, 9, 10

1. A’ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10

3, 5

1. B C = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

B = 1, 3, 5, 6 C = 0, 3, 5, 8, 9

0, 1, 3, 5, 6, 8, 9

1. B C = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

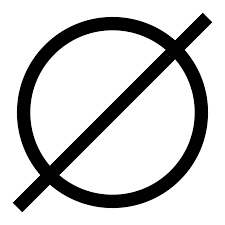
overlapping

0, 1, 3, 5, 8, 9

1. (A  B)  C = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

A  B = 1, 5 C = 0, 3, 5, 8, 9

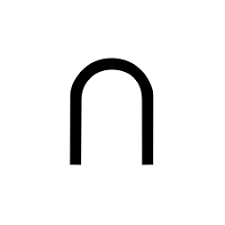
5. Label each symbol with their correct name or meaning.

(a)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Empty Set

(b)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Union

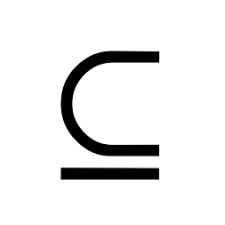
(c)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Intersection

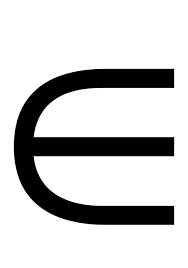
Complement

A’ Ac

(d) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(e)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Subset

(f)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

“Is An Element Of”