**Oxfords E- lesson**

Grade : **SS3 (SSCE Revision)**

Subject : **Mathematics**

Topic : **Sets**

**Salient Point**

**Word Problems On Sets:**

Let us recall that a set is a well-defined list or collection of objects. However, our focus here is on word problems involving sets.

**Question 1**

In a survey of common foodstuff sold by women in a particular mini-market it was found that 30 sold beans, 8 sold garri and beans, 5 sold beans and rice, 10 sold garri and rice, 67 sold rice or beans, 50 sold beans or garri, 60 sold rice or garri and 3 sold rice, beans and garri.

a). Draw a venn diagram to illustrate

the information.

b). Find the number of women who

sold (i) garri (ii) rice (iii) either rice, garri

or beans.

**Solution**

Let 





Thus 



;



Note that in sets, “and” is used for intersection while “or” is used for union.

a). Let us represent the information using a

venn diagram.



From the above diagram, we can deduce that:

1. The number of women that sold beans only:

 

1. The number of women that sold garri only:

.

1. The number of women that sold rice only:

.

b).

i). To find the number of women who sold garri, we should

consider how many women that sold garri or beans since

the number of those who sold beans is given:

Thus, 



Collecting like terms, we have:





 the number of women who sold garri=28.

ii). Also to find the number of women who sold rice, we should

consider the number of women who sold beans is given:

Thus, 





Subtract 25 from both sides.







 the number of women who sold rice =42.

iii). To find the number of women who sold either rice, garri or

beans, involves union of three sets.

Thus,



Note that .

So, 



 the number of women who sold either rice, garri or

beans=80.

**Assignment**

**1). In a survey of 600 students in a private school, it was**

**found that 137 speak Hausa, 170 speak Yoruba and 280**

**Speak Igbo. If 67 speak Hausa and Yoruba, 73 speak Hausa**

**and Igbo, and 55 speak Yoruba and Igbo, and each of the**

**students speaks at least one language:**

**a). draw a Venn diagram to illustrate this information.**

**b). find : (i) number of students that speak all three**

**languages,**

**(ii) number of students who speak Igbo only,**

**(iii) number of students who speak Yoruba only.**

**2). Three members of a school first eleven football team are**

**also members of the first six basketball team. How many**

**boys play for at least one of the two teams?**

Additional Studies

Study Geometric Progression.