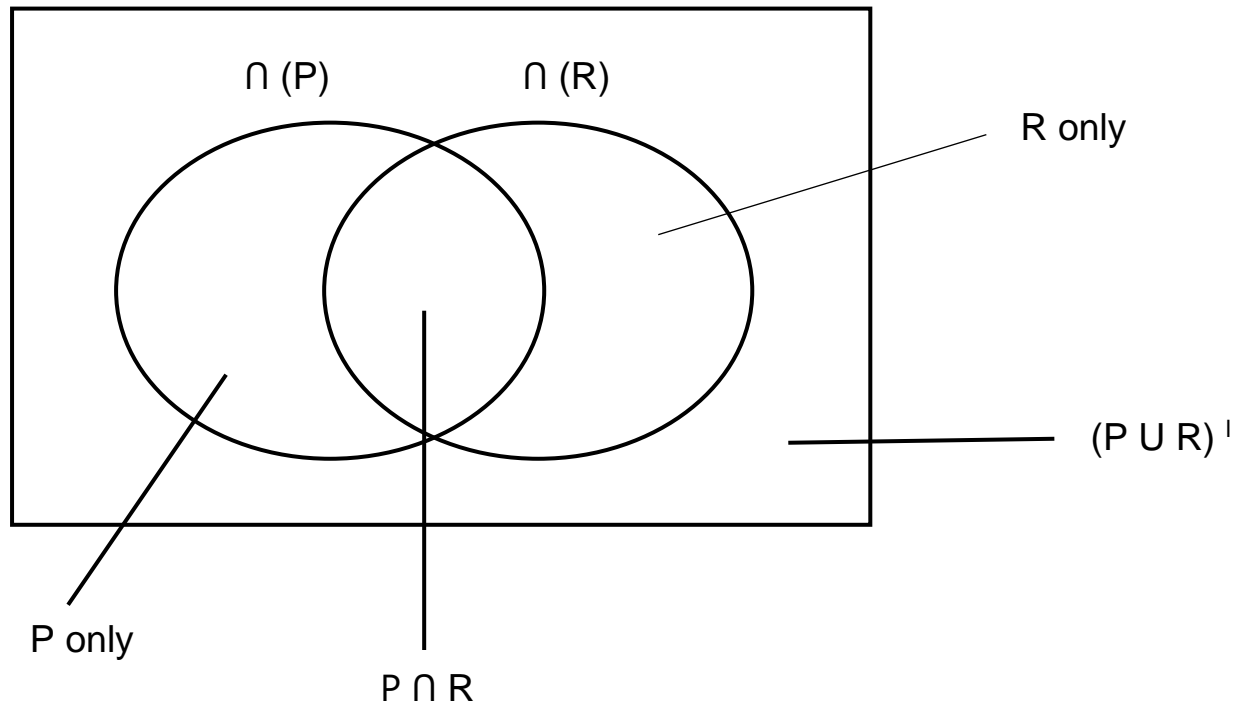
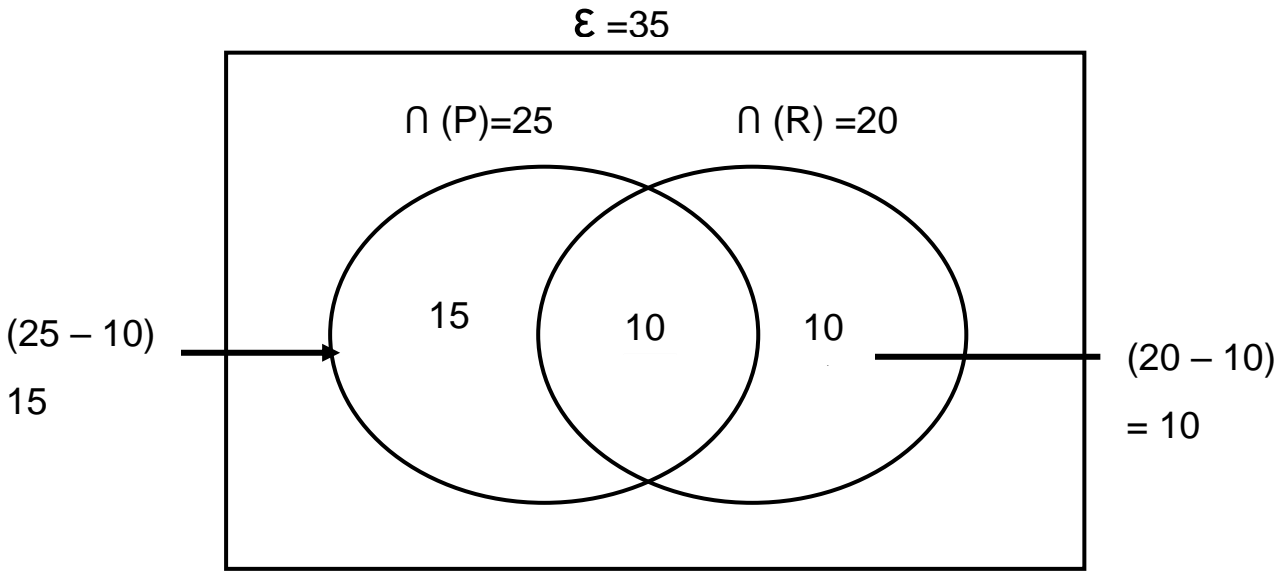


## Lesson Six

Representing information on a venn diagram.

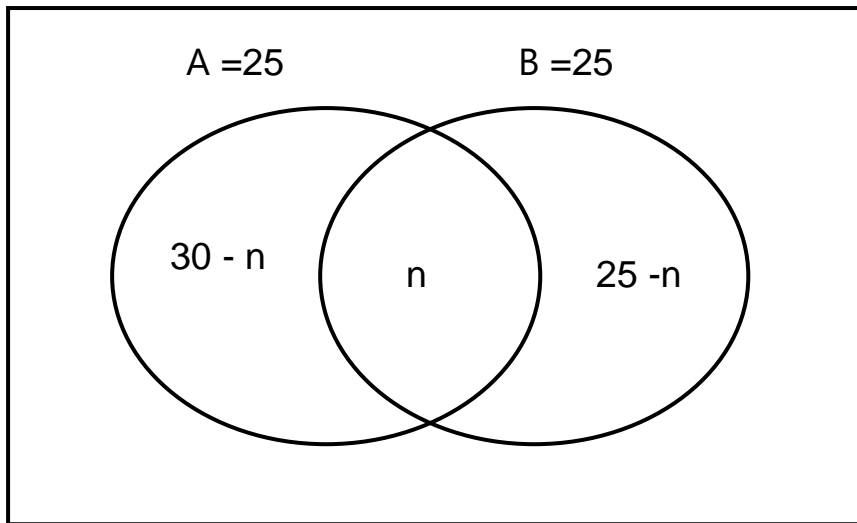


- Given that  $\cap (P) = 25$ ,  $\cap (Q) = 20$ . If  $\cap (P \cup Q) = 35$ ,  $\cap (P \cap Q) = 10$ . Draw a venn diagram for the information above and complete the venn diagram



- Given that  $\cap (A) = 30$ ,  $\cap (B) = 25$  and  $\cap (A \cup B) = 45$ .
  - Draw a venn diagram to show the above information.

$$\mathcal{E} = 45$$



b) Find

i)  $A \cap B$

Solution

$$30 - n + n + 25 - n = 45$$

$$30 + 25 + n - n - n = 45$$

$$55 - n = 45$$

$$55 - 45 = n$$

$$10 = n$$

$$n = 10$$

OR  $30 - n + n + 25 - n = 45$

$$30 + 25 + n - n - n = 45$$

$$55 - n = 45$$

$$55 - 55 - n = 45 - 55$$

$$-n / -1 = -10 / -1$$

$$n = 10$$

c) Find the number of elements in  $A - B$ .

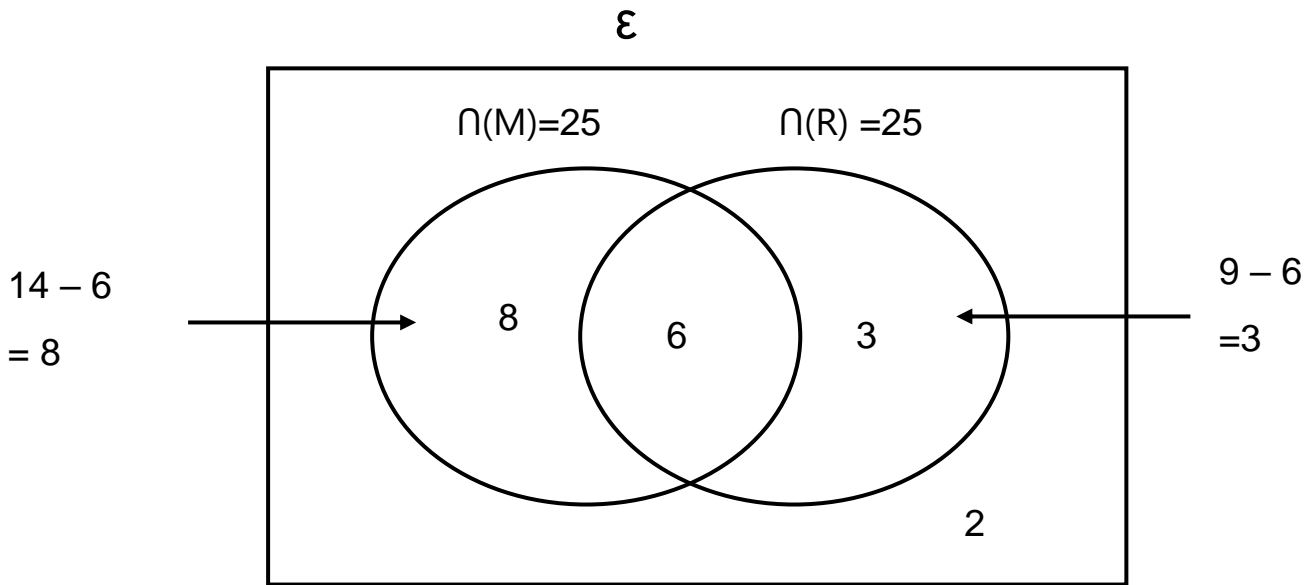
$$30 - n$$

$$30 - 10$$

$$\underline{20}$$

3. Given that 14 pupils like Matooke (M), 9 pupils like Rice (R), 6 pupils like both Matooke and Rice while 2 pupils like neither of two.

a) Draw a Venn diagram to show the above information.



b) How many pupils like Matooke only?

$$14 - 6 = 8 \text{ pupils.}$$

c) How many pupils don't like Rice.

$$8 + 2 = 10 \text{ pupils.}$$

d) What is the probability of selecting a pupil who likes only one type of food?

*Pupils who like one type of food*

$$8 + 3 = 11$$

$$\text{Probability} = \frac{\text{D.C}}{\text{S.S}} = \frac{11}{19}$$

Total pupils

$$8 + 6 + 3 + 2$$

$$14 + 5$$

$$19$$