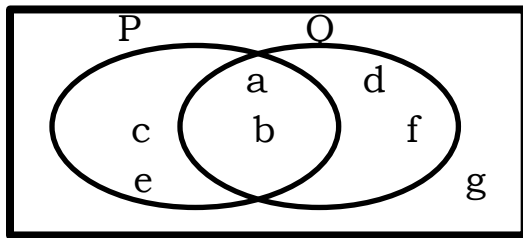


## PLE TOPICAL QUESTIONS

### SET CONCEPTS

1. Given that  $Q = \{\text{all prime numbers less than } 10\}$ . Find  $n(Q)$ .
2. The number of subsets in set A is 16. How many elements are in set A?
3. Given that set  $P = \{1, 3, 5, 7, 9\}$  and set  $Q = \{2, 3, 5, 7\}$ . Find  $n(P \cap Q)$ .
4. Given that  $K = \{1, 2, 3, 4, 5\}$  and  $M = \{2, 4, 6, 8\}$ . Find  $n(K \cup M)$ .
5. Given that  $K = \{g, m, v, z\}$ , find the number of subsets in set K.

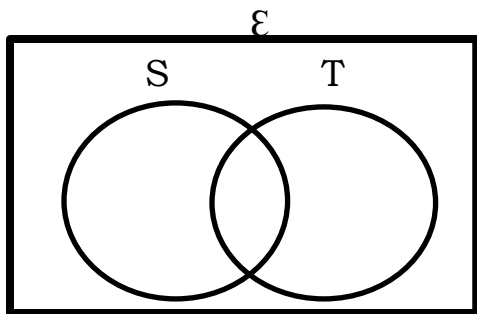
6. Use the Venn diagram below to find  $n(P \cap Q)$ .



7. Given that  $N = \{c, t, p\}$ , list all the subsets in  $N$ .

8. Given that  $P = \{a, b, c, d, e, f, g\}$  and  $Q = \{b, a, f, e, h\}$ . Find  $n(P \cup Q)$ .

9. In the Venn diagram below, shade the region  $(S \cup T)$ .

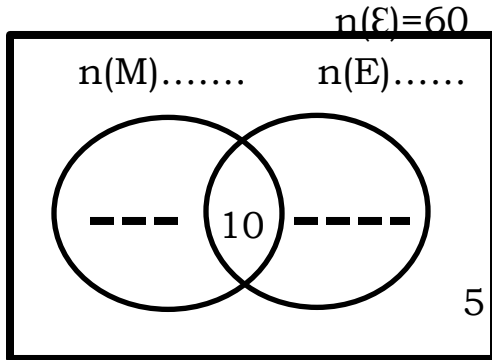


10. Given that the subsets of set  $Q$  are;  $\{m\}$ ,  $\{k\}$ ,  $\{m, k\}$ ,  $\{\}$ , find  $n(Q)$ .

## SECTION B

11. In a class of 60 pupils, 30 like English (E),  $y$  like mathematics (M) only, 10 like both subjects and 5 do not like any of the two subjects.

a) Use the information given above to complete the Venn diagram below.

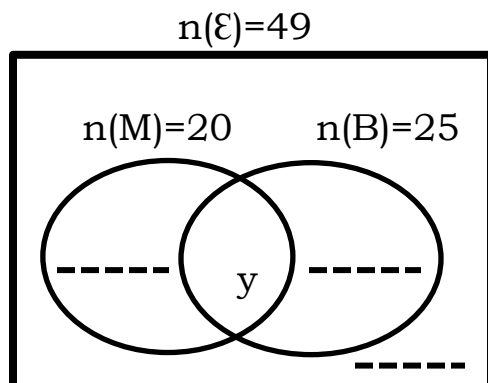


b) Find the value of  $y$ .

c) How many pupils like Mathematics altogether?

12. In a village of 49 farmers, 20 grow millet (M), 25 grow beans (B) and  $y$  grow both millet and beans.  $3y$  farmers grow neither of the two food crops.

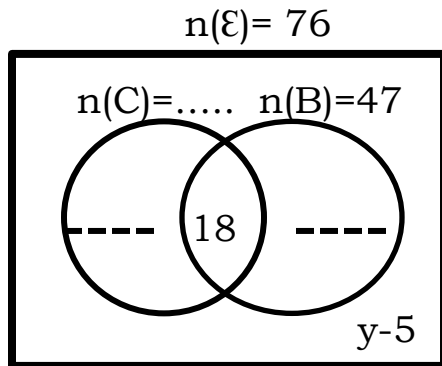
a) Use the information given to complete the Venn diagram.



b) Find the value of  $y$ .

c) How many farmers grow neither millet nor beans?

13. At a birthday party attended by 76 guests, 47 were served with beef (B) and 18 were served with both beef and chicken (C).  $y$  guests were served with Chicken only while  $(y - 5)$  were not served with any of the two dishes.



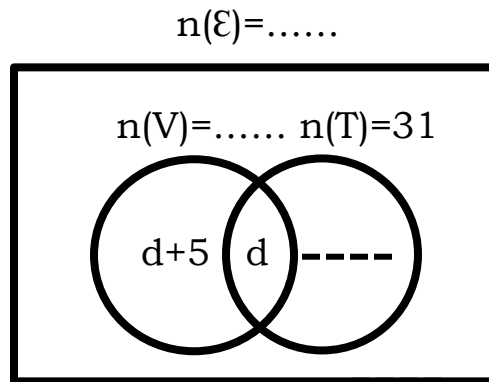
a) Find the value of  $y$ .

b) Find the number of guests who were not served with chicken.

14. In a class, 31 pupils play Tennis (T) ( $d+5$ ) play volleyball (V) only.  $d$  pupils

Play both games while 3 play neither of the games.

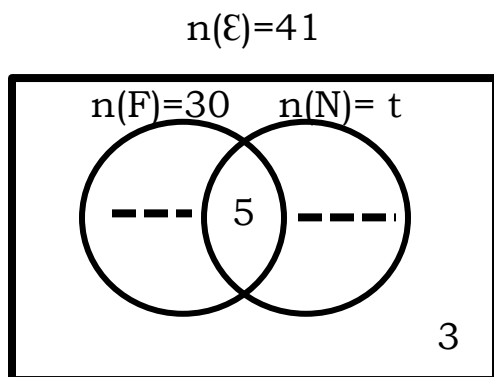
a) Use the above information to complete the Venn diagram below.



b) If 27 pupils play volleyball altogether, find the value of  $d$ .

15. In a class of 41 pupils, 30 play football (F),  $t$  play netball (N) and 5 play both Football and Netball. 3 pupils do not play any of the two games.

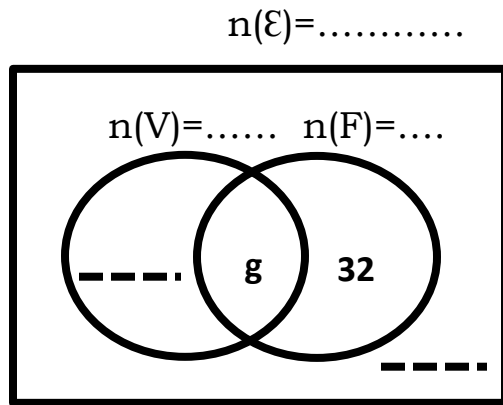
a) Use the above information to complete the Venn diagram below.



b) Find the value of  $t$ .

16. In a class ,32 pupils play football(F) only, g play both volleyball(V) and football, (2g-10) play volleyball but not football while (g-2) play neither of the two games.

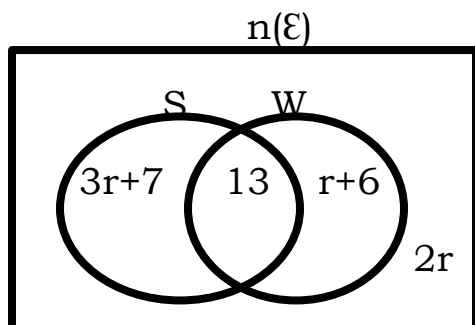
a)Complete the Venn diagram below using the above information.



b)Given that 62 pupils play one game only, find the value of g.

c)Calculate the number of pupils in the class.

17. At a party, guests were served with soda(S) and mineral water(W) as shown in the Venn diagram below .Study and use the Venn diagram to answer the questions that follow.



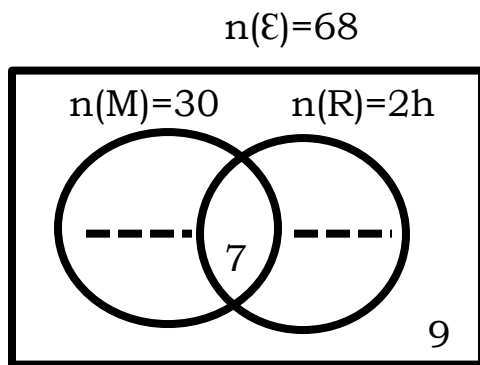
a) If 32 guests were served with soda, find;  
i) the value of  $r$ .

ii) the total number of guests who attended the party.

b) Find the probability that a guest picked at random did not take any drink.

18. A class of 68 pupils was served with matooke(M) and rice(R). 30 pupils ate matooke and 24 ate rice. 7 pupils ate both matooke and rice while 9 pupils did not eat either of the foods.

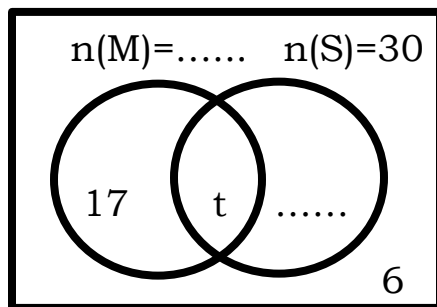
a) Use the given information to complete the Venn diagram below.



b) How many pupils ate rice only?

19. In a class party, two types of drinks were served, soda (S) mineral water (W). 30 pupils took soda and  $t$  pupils took both soda and mineral water. 6 pupils took neither of the drinks while 17 pupils took only mineral water. The number of pupils who took soda only was twice of those who took both soda and mineral water.

a) Use the given information to complete the Venn diagram below.



b) Find the number of pupils who took both drinks.

c) Calculate the total number of pupils in the whole class.

**“Success is for the prepared ones”**

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