NAMAGUNGA PRIMARY BOARDING SCHOOL

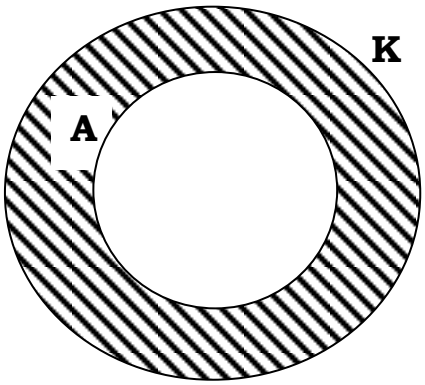
PRIMARY SIX HOLIDAY WORK , 2021

Mathematics

Name:_____ **Stream:**_____

SET CONCEPTS

1. (a) In the Venn diagram below, describe the shaded set region using symbols.



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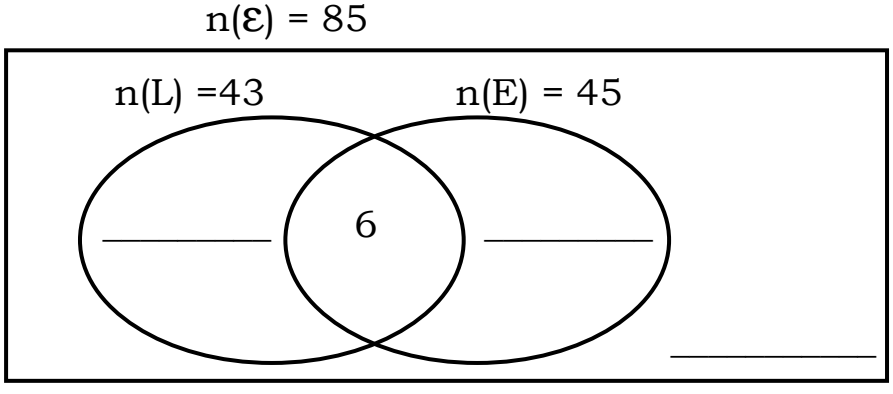
b) Given that; Set W= {square numbers less than 10}, how many subsets has set W?

c) Set M has 31 proper subsets. How many elements has set M?

2. During the Imbalu cultural celebrations at Mutoto in Mbale, 85 guests were invited. 43 of them spoke Lumasaba(L). 45 guests spoke English (E), 3 spoke neither languages while 6 guests spoke both languages.

a) Represent the above information on a Venn diagram below.

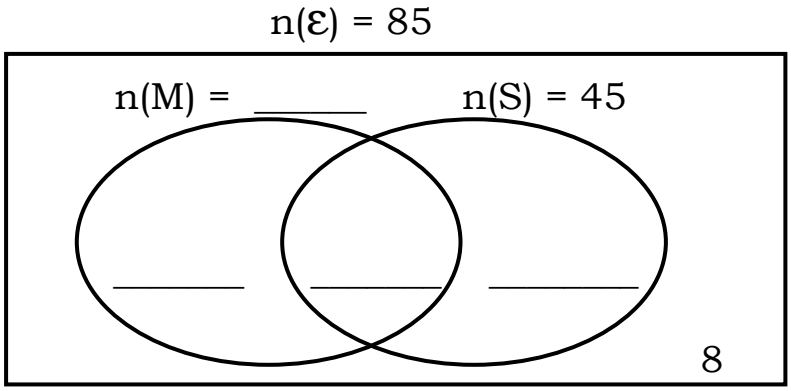


b) How many guests spoke only one language?

c) If a guest is selected at random to become the chief guest, what is the chance that a guest did not speak Lumasaba?

3. In a class of 85 pupils, 32 like Mathematics only (**M**), 45 like Science(S), **k** like both subjects while 8 like neither subjects.

a) Represent the above information on a Venn diagram below.

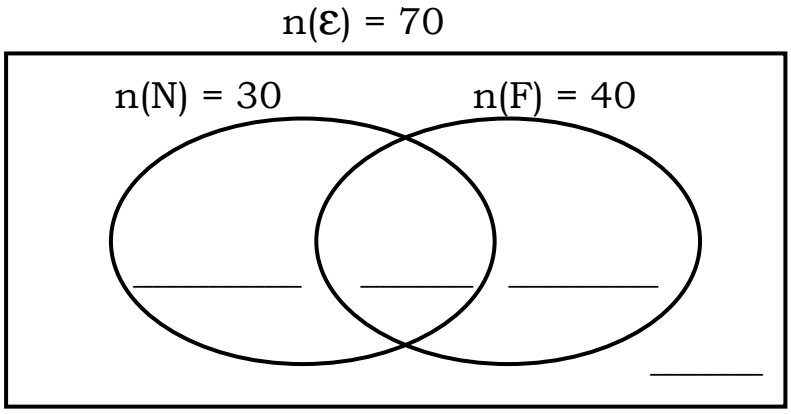


b) How many pupils like both subjects?

c) How many pupils like Mathematics?

4. In a class of 70 pupils, 30 like Net ball(**N**), 40 like Football(**F**), 10 like both football and netball, while **y** do not like any of the above games.

a) Represent the above information on the Venn diagram below.

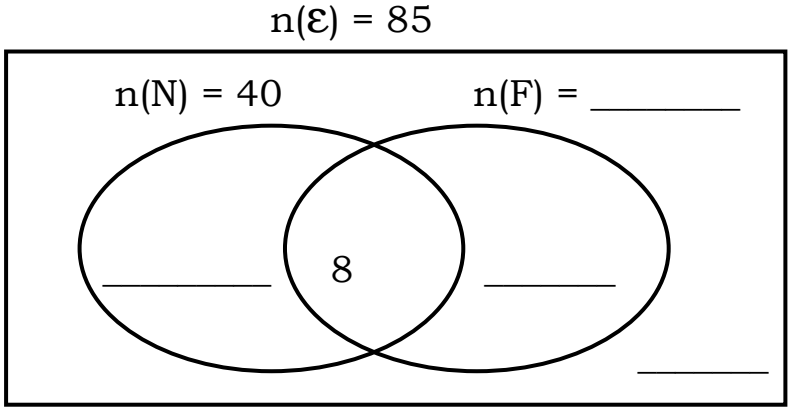


b) Find the value of y.

c) How many pupils like one game?

5. In a class of 85 pupils, 40 like Novida(**N**), 8 like both Novida and Fanta(**F**), **m** like Fanta only and 3 like neither.

a) Represent the information on a Venn diagram below.

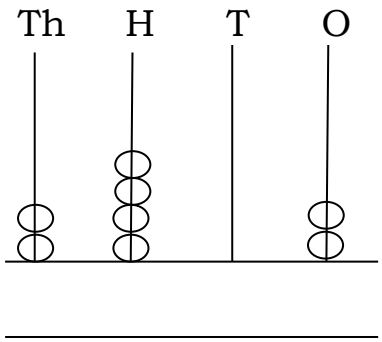


b) If a pupil is picked at random, what is the chance that he likes Fanta only?

c) How many pupils do not like Fanta?

WHOLE NUMBERS

6. a) On the abacus below, write the number shown in words.



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b) Find the sum of the values of 4 and 0 in the numeral above.

c) Expand the numeral using powers of 10.

d) Write the above numeral in Roman numerals.

7. a) Write $(6 \times 10^{2}) + (7 \times 10^{4}) + (2 \times 10^{-2})$ in short form.

b) Round off the above numeral to the nearest tenths.

c) Work out the product of the value of 6 and the place value of 2 in the above numerals.

OPERATION ON NUMBERS

8. A taxi travelling from Mbale to Kampala charges Shs. 15000 per person and Shs.20, 000 for the return journey. It carries 14 passengers to Kampala and 12 passengers from Kampala (return).

a) How much money did the conductor collect from Mbale to Kampala and then back altogether?

b) If it is260km from Mbale to Kampala and the taxi consumes 1 litre of fuel for every 26km, how much money will the driver spend on fuel if each litre costs Shs. 3320?

9. a) Use distributive property to work out the following:

i) $(16 \times 3) - (6 \times 3)$

ii) $(6.25 \times 5) + (3.75 \times 5)$

iii) $(49 \times 10) - (10 \times 19)$

iv) $(6.25 \div 5) + (3.75 \div 5)$

b) Write the number whose scientific notation is 9.85×10^{-3}.

PATTERNS AND SEQUENCES

10 a) What number of goats when divided by either 15 or 18 leaves 2 as a remainder?

b) The L.C.M of two numbers is 30 and their HCF is 5. If one of the numbers is 15, find the other number.

11. a) The area of a square swimming pool is $2\frac{1}{4}m^2$.

i) Find the length of its sides.

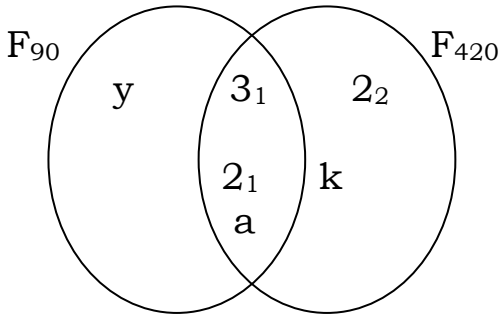
ii) Work out its perimeter.

b) Find the square root of 2.25.

c) Find the product of the next two numbers in the sequence below;

729, 243, 81, 27, 9, _____, _____

12. Study the Venn diagram below carefully and use it to answer the questions that follow;



a) If the GCF of 90 and 420 is 30, find the value of a

b) Work out the value of k.

c) Calculate the value of y.

d) Work out the LCM of 90 and 420.

13. The sum of five consecutive even numbers is 290.
    a) Find the numbers.

b) Work out their range.

c) Calculate the median of the above numbers.

14. Three motorists were flagged off from the same starting point in intervals of 20 minutes, 30 minutes and 50 minutes respectively. If they were first flagged off together at 9:20am, when will they next be flagged off together again?

FINITE SYSTEM

15. a) Today is Sunday, a P.6 class will go for a tour to Parliament 156 days to come. On which day of the week will they go?

b) Its May now. A P.6 class went for a tour to London, 200 months ago. In which month did they go?

c) Solve for y; 2y = 3 (finite 5)

d) Using a dial, work out; 3 x 4 = m (finite 5)

BASES

16 a) Change 1101 two to denary base

b) Convert 50_{ten} into ternary base.

c) Change 201_{four} to senary base.

d) Given that; $100m = 61_{eight}$. Find the value of m.

e).Work out; $123_{four} + 203_{four}$ and give your answer in base five.

f). Work out;

$$\begin{array}{r} 2\ 3\ 1_{five} \\ \times \quad 3_{five} \\ \hline \end{array}$$

FRACTIONS

17. Work out the following;

a) i). $\frac{2}{3}$ of $\frac{3}{4} - \frac{1}{3}$

ii) $\frac{2}{3}$ x $(\frac{1}{4} - \frac{1}{12}) \div \frac{1}{5}$

b). i) $\frac{4.5\times1.6}{1.5\times0.8}$

ii). $\frac{6.25\times3.6}{1.8\times0.25}$

c). Change the following recurring decimals to vulgar fractions.

i). 0.333...

ii). $0.\overline{45}$

18. In a village of 1500 people, $\frac{1}{5}$ of them are females and the rest are males. $\frac{1}{4}$ of the females are school girls and $\frac{1}{2}$ of the males are school boys. How many school children are in the school?

19 a) In a class , $\frac{2}{5}$ of the pupils are girls and the rest are boys. If there are 90 boys in the class, how many pupils are in the class altogether?

b) $\frac{7}{10}$ of a number is 140, what is the number?

c) Namyalo covered $\frac{2}{3}$ of the journey. If she was left with 90km, Calculate the total distance she was to cover.

20. A man spends $\frac{1}{3}$ of his salary on food, $\frac{1}{9}$ on clothing and banks the rest which is sh. 25,000.

a) What fraction of the salary does he bank?

b) How much money does he earn altogether?

c) How much more money does he spend on food than clothing?

End

Name of parent:_____

Signature:_____ Date:_____