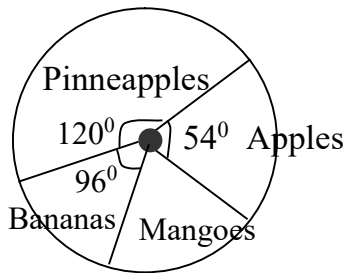


MATHEMATICS

SECTION A:

1. Express 784 as a product of its prime factors. Hence find the square root of 784.
2. Solve the equation $3x^2 + 10x = 8$
3. Given that $133_n = 43$, find the value of n .
4. Simplify $\frac{2^{-2} \times 3^{-3}}{2^{-4} \times 3^{-6} \times 18}$
5. Factorize completely $8a^2 - 18b^2$
6. Given that $f(x) = ax - 7$ and $f(8) = 17$. Find the value of
 - (i) a
 - (ii) $f(4)$
7. The pie chart below shows fruits popular sold in a daily super market in Kampala.



If 420 apples were sold on a given day, determine;

- i) the total number of fruits that were sold that day.
 - ii) how many mangoes were sold that day.
8. Without using tables or calculators evaluate $7.46^2 - 2.54^2$.
 9. Given that $a * b = a^2 + \sqrt{ab}$ find $(1 * 4) * 3$
 10. Mary is five years younger than John. Peter is twice as old as Mary. The sum of their ages is 49. Find Peter's age.

SECTION B:

11. Using a ruler, pencil and pair of compasses only construct;

- (a) a triangle ABC where angle $ABC = 105^\circ$, $BC = 9.2\text{cm}$ and $AC = 12\text{cm}$.
Measure and state length AB and angle BAC.
- (b) a circle circumscribing triangle ABC. State the radius of the circle.

12. The marks obtained by 40 pupils in an English test are given below

50	71	40	48	61	70	30	62
44	63	60	51	55	25	32	65
54	62	65	50	45	40	25	43
48	45	30	38	30	28	24	48
30	48	28	35	50	48	50	60

- (a) Using class intervals of 5 marks construct a frequency distribution table starting with 20 – 24 class.
- (b) Represent this information on a histogram. Use the histogram to estimate the modal mark.
- (c) Estimate the mean using a working mean of 47

END.