St. AGNES JUNIOR SCHOOL Rise and Shine KISUGU

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WEEK 7 AUGUST P.5 MATHS CLASS WORK

LESSON ONE

TOPIC: FRACTIONS
SUB TOPIC: WORD PROBLEMS

Example I

A mathematics book contains 200 pages. A pupil reads $^3/_5$ of the book. How many pages did the pupil read?

A pupil read $^3/_5$ of 200 pages.

= $^3/_5$ of 200 pages

= $^3/_5 \times {}^{200}/_1$

= $\frac{3 \times \cancel{200}^{40}}{\cancel{5}_1 \times 1}$ pages

= $\frac{3 \times 40}{1 \times 1}$ pages

= **120 pages**.

EXERCISE

1. What is $^1/_6$ of 24 kilograms?
2. What is $^1/_5$ of 30 litres?
3. A man received $^3/_4$ of his salary. If his salary was sh. 20,000, how much money did he receive?
4. Sempa wants to visit his uncle who lives near Kabale town. The journey to Kabale is 40 kilometres away. If his uncle's home is at $^7/_8$ of the journey, how far is it in km?
5. A man had sh. 1,000. He gave away $^2/_5$ of it to his wife.
   I).How much money did he give to his wife?
   ii). How much money did he remain with

LESSON TWO

MULTIPLICATION OF FRACTIONS BY FRACTIONS

Examples.

1. $^1/_2 \times {}^1/_2$
2. $^1/_8 \times {}^4/_5$

$\frac{1 \times 1}{2 \times 2}$

$\frac{1}{\cancel{8}_{2}} \times \frac{\cancel{4}^{1}}{5}$

EX SE

$\frac{1}{4}$

$\frac{1 \times 1}{2 \times 5}$

$\frac{1}{10}$

1. $^1/_4$ x $^1/_5$
2. $^2/_3$ x $^5/_6$
3. $^1/_9$ x $^4/_9$
4. $^3/_8$ x $^2/_7$
5. $^4/_9$ x $^1/_4$
6. $^7/_{11}$ x $^4/_5$
7. $^8/_{13}$ x $^2/_3$

LESSON THREE

RECIPROCALS OF FRACTIONS

1. Reciprocal of a fraction is the opposite of a given fraction.
2. The numerator of the fraction becomes the denominator and the denominator becomes the numerator.
   Eg. a) The reciprocal of ¼ = $^4/_1$
   b) The reciprocal of $^2/_3$ = $^3/_2$
   c) The reciprocal of $^5/_8$ = $^8/_5$
   etc.
3. If a whole number is given, make it a fraction by putting it over 1 and give its reciprocal
   Eg. a) The reciprocal of 6 = $^6/_1$ = $^1/_6$
   b) The reciprocal of 10 = $^{10}/_1$ = $^1/_{10}$.
4. If a mixed fraction is given, change it to an improper fraction and then give the reciprocal of the improper fraction.
   Eg.a) The reciprocal of 1½ = $^3/_2$ =$^2/_3$.
   b) The reciprocal of $33^1/_3$.= $^{100}/_3$ = $^3/_{100}$.

RECIPROCALS OF FRACTIONS BY CALCULATION

We should take note that a number multiplied by its reciprocal gives 1.

Example I

What is the reciprocal of $^3/_5$?

Let the reciprocal of $^3/_5$ be y

$^3/_5$ x y = 1

$^{3}/_{5} \times {}^{y}/_{1} = 1$

$^{3y}/_{5} = 1$ **Make 1 a fraction.**

Cross-multiply

$3y \times 1 = 5 \times 1$

$3y = 5$

$3y = 5$ **divide both sides by 3**

$^{3y}/_{3} = {}^{5}/_{3}$

$y = {}^{5}/_{3}$.

∴ The reciprocal of $^{3}/_{5}$ is $^{5}/_{3}$.

EXERCISE

A. ***Calculate the reciprocal of each of the following***.

1. ½
2. $^{5}/_{3}$.
3. $^{5}/_{3}$.
4. 7
5. 23
6. 14
7. $3^{1}/_{8}$.
8. $4^{7}/_{12}$

LESSON FOUR

DIVISION OF FRACTIONS BY NATURAL NUMBERS

Example I

Divide $^{1}/_{5} \div 4$ **Make 4 a fraction**

$= {}^{1}/_{5} \div {}^{4}/_{1}$. **Change (÷) to (x) then reciprocal of $^{4}/_{1} = {}^{1}/_{4}$.**

$= {}^{1}/_{5} \times ¼$

$$= \frac{1 \times 1}{5 \times 4}$$

$= {}^{1}/_{20}$.

EXERCISE

1. $^{1}/_{6} \div 4$
2. $^{4}/_{20} \div 5$
3. $^{1}/_{3} \div 2$
4. $^{2}/_{3} \div 4$
5. $^{3}/_{7} \div 3$

6. $^{5}/_{8}$ of the bread was shared among 16 children. How much bread was given out

LESSON FIVE

DIVISION OF FRACTIONS BY FRACTIONS

Example I

½ ÷ ¼

= ½ x $^{4}/_{1}$. **Change (÷) to (x) then reciprocal of $^{1}/_{4}$ = $^{4}/_{1}$.**

$= \frac{1 \times \cancel{4}^{2}}{\cancel{2}_{1} \times 1}$

= 1 x 2

= **2**

Example II

Divide: $4 \div \frac{1}{2}$

$= \frac{4}{1} \div \frac{1}{2}$

$= \frac{4}{1} X \frac{2}{1}$

$= \frac{8}{1}$

= 8

EXERCISE

WORKOUT THE FOLLOWING

1. $5 \div \frac{1}{3}$
2. $8 \div \frac{2}{3}$
3. $6 \div \frac{3}{4}$
4. $\frac{1}{2} \div \frac{1}{8}$
5. $\frac{1}{3} \div \frac{1}{12}$
6. How many $\frac{1}{3}$ chapattis can you get from 3 chapattis

7. Divide 4 loafs of bread into quarters$(\frac{1}{4})$. How many quarters do you get?