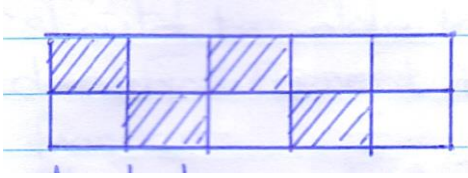


Examples

1. What fraction is shaded?

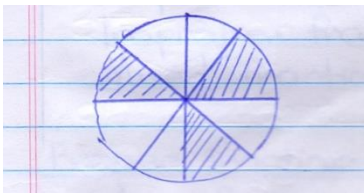


Shaded 4

Whole diagram 10

Fraction $\frac{4}{10}$

2. Write the unshaded fraction.



$\frac{5}{8}$

Activity

1. In the fraction below, show the denominator using an arrow

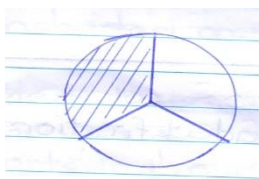
$$\frac{4}{5}$$

2. Draw and shade the following fractions

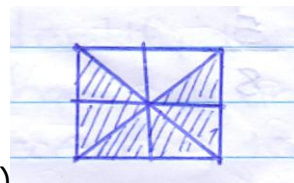
a) $\frac{2}{3}$

b) $\frac{1}{4}$

3. What fraction is shaded



a)



b)

4. Write the following in words

a) $\frac{3}{4}$

b) $\frac{7}{10}$

2. Types of fractions

Objectives

The learner;

-Should be able to identify different types of fractions

-should be able to define the different types, given their examples and differentiate them.

Types of fractions

Proper fractions

Improper fractions

Mixed fractions

Proper fractions

Are fractions that have a numerator which is less than the denominator

e.g: $\frac{2}{3}$, $\frac{2}{5}$, $\frac{6}{7}$

Improper fractions

Are fractions that have a numerator which is greater than the denominator e.g; $\frac{3}{2}$, $\frac{5}{2}$, $\frac{7}{3}$

Mixed fractions

Are fractions that have a whole number and a proper fraction.

e.g $3\frac{1}{3}$, $2\frac{2}{5}$, $5\frac{4}{9}$

Activity

a) $\frac{2}{5}$

d) $\frac{6}{7}$

b) $\frac{5}{4}$

e) $1\frac{1}{2}$

c) $\frac{3}{2}$

f) $3\frac{2}{5}$

3. Changing mixed fractions to improper fractions.

Step taken

1. Identify the parts of the fraction given

2. Then use the formula

$$\frac{(D \times W) + N}{D}$$



3. Substitute the figures in the formula

Examples Change the following to improper fractions

$$\begin{aligned} \text{a) } 4\frac{1}{2} &= \frac{(D \times W) + N}{D} \\ &= \frac{(2 \times 4) + 1}{2} \\ &= \frac{8 + 1}{2} \\ &= \frac{9}{2} \end{aligned}$$

$$\begin{aligned} \text{b) } 4\frac{2}{5} &= \frac{(D \times W) + N}{D} \\ &= \frac{(5 \times 4) + 2}{5} \\ &= \frac{20 + 2}{5} \\ &= \frac{22}{5} \end{aligned}$$

Activity

Express the following as improper fractions.

a) $2\frac{3}{5}$

b) $3\frac{1}{4}$

c) $6\frac{1}{3}$

d) $5\frac{2}{5}$

4. Changing improper fractions to mixed fractions

Steps taken

1. Dived the numerator by the denominator using long division.

2. Write the quotient as the whole number, the remainder as the numerator, the division as the denominator.

$$\text{a) } \frac{5}{2} \quad \begin{array}{r} 2 \text{ --- } W \\ D \text{ --- } 2 \overline{) 5} \\ \underline{- 4} \\ 1 \text{ --- } N \end{array}$$

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

$$b) \frac{13}{5}$$

0	2	w
13	↓	
-0	↓	
13	↓	
-10	↓	
3	↓	N

$= 2\frac{3}{5}$

Activity

Change the following improper fraction to mixed fractions.

a) $\frac{7}{2}$

b) $\frac{8}{3}$

c) $\frac{21}{5}$

5. **Finding equivalent fractions.**

Step taken

-Equivalent fractions are got by multiplying the numerator and the denominator by the same counting numbers starting with two

-List the equivalent fractions.

Examples

Find the next four equivalent fractions to;

a) $\frac{1}{2} = \frac{1 \times 2}{2 \times 2}, \frac{1 \times 3}{2 \times 3}, \frac{1 \times 4}{2 \times 4}, \frac{1 \times 5}{2 \times 5}$

$\frac{1}{2} = \frac{2}{4}, \frac{3}{6}, \frac{4}{8}, \frac{5}{10}$

b) $\frac{4}{5} = \frac{4 \times 2}{4 \times 2}, \frac{4 \times 3}{5 \times 3}, \frac{4 \times 4}{5 \times 4}, \frac{4 \times 5}{5 \times 5}$

$\frac{4}{5} = \frac{8}{10}, \frac{12}{15}, \frac{16}{20}, \frac{20}{25}$

Activity

Find the next three equivalent fractions to;

1. $\frac{1}{3}$

2. $\frac{3}{4}$

3. $\frac{5}{6}$

6. Finding the missing number in equivalent fractions.

Steps taken

- Finds equivalent fractions to the given fractions.
- Lists equivalent fractions to the given fractions
- Circles the fraction with either the same denominator according to what is missing.
- Fill in the missing number

Examples

Find the missing number using equivalent fractions

a) $\frac{2}{3} = \frac{6}{9}$

b) $\frac{2}{3} = \frac{2 \times 2}{3 \times 2}, \frac{2 \times 3}{3 \times 3}, \frac{2 \times 4}{3 \times 4}, \frac{2 \times 5}{3 \times 5}$

c) $\frac{2}{3} = \frac{4}{6}, \left(\frac{6}{9}\right), \frac{8}{12}, \frac{10}{15}$

d) $\frac{5}{7} = \frac{25}{35}$

$\frac{5}{7} = \frac{5 \times 2}{7 \times 2}, \frac{5 \times 3}{7 \times 3}, \frac{5 \times 4}{7 \times 4}, \frac{5 \times 5}{7 \times 5}$

$\frac{5}{7} = \frac{10}{14}, \frac{15}{21}, \frac{20}{28}, \left(\frac{25}{35}\right)$

Activity

Find the missing equivalent fractions.

a) $\frac{3}{4} = \frac{\quad}{16}$

b) $\frac{3}{5} = \frac{9}{\quad}$

c) $\frac{4}{7} = \frac{\quad}{21}$

7. Reducing fractions

Steps taken

- List fractions for the numerators and denominators
- Identifying the GCF
- Dividing the numerator and denominator by the GCF

Example

Reduce the following fractions to their lowest terms.

a) $\frac{6}{12}$

$$F_6 = \{ 1, 2, 3, \textcircled{6} \}$$

$$F_{12} = \{ 1, 2, 3, 4, \textcircled{6}, 12 \}$$

$$\text{GCF} = 6$$

$$\begin{aligned} \frac{6}{12} &= \frac{6 \div 6}{12 \div 6} \\ &= \frac{1}{2} \end{aligned}$$

b) $\frac{4}{6}$

$$F_4 = \{ 1, \textcircled{2}, 4 \}$$

$$F_6 = \{ 1, \textcircled{2}, 3, 6 \}$$

$$\text{GCF} = 2$$

$$\begin{aligned} \frac{4}{6} &= \frac{4 \div 2}{6 \div 2} \\ &= \frac{2}{3} \end{aligned}$$

Activity

Reduce the following fractions to their lowest terms.

a) $\frac{3}{6}$

b) $\frac{6}{8}$

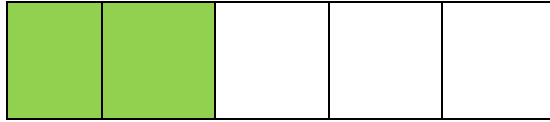
c) $\frac{6}{10}$

GENERAL REVISION EXERCISE

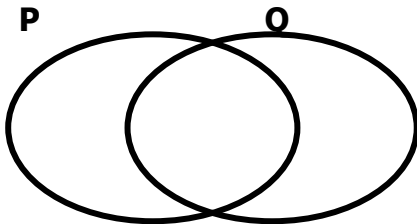
Activity 1

1. Add: $24 + 3$
2. Write 1402 in words.
3. Find the next number in the sequence below.
1, 3, 5, 7, _____

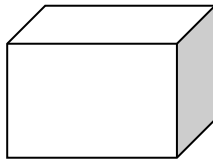
4. What fraction is shaded?



5. In the diagram below shade the region PnQ.



6. Round off 137 to the nearest hundreds.
7. Given that set $X = \{a, b, c, d\}$. Find $n(X)$.
8. Write XVI in Hindu Arabic numerals.
9. If \triangle represents 5 triangles. How many triangles are represented by $\triangle \triangle \triangle \triangle$?
10. List down the first five multiples of 3.
11. Solve for K. $K + 3 = 9$
12. What is the place value of 9 in 293?
13. Kamasu had sh. 1000. He spent sh. 450. How much did he remain with?
14. Find the product of 24 and 7.
15. Name the shape below.

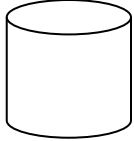


16. Write 345 in expanded form.
17. Divide: $369 \div 3$
18. Simplify: $3p + 4p$
19. Add: $\frac{2}{5} + \frac{3}{5}$
20. Find the value of 8 in the number 2 8 3 7.

21. Given the digits 4, 9, 2, 5.

- (i) Arrange them to form the largest figure.
- (ii) Arrange them to form the smallest figure.
- (iii) Find the sum of the largest and smallest figures formed.

22i) Name the solid shape below.



ii) How many verticals has the figure above.

23. Babombe had 15 cows. Bayizzi gave him more cows. Now he has 21 cows.

How many cows did Bayizzi give him?

24. Given that $x = 2$, and $y = 3$.

i. Find the value of $x + y$

ii. Find the value of $y - x$

25. Work out:

i) 42×12

ii) $349 + 956$

iii) $1376 - 269$

26. Below is a price list in Mr. Lule's shop. Use it to answer the questions that follow.

Price list in Mr. Lule's shop.

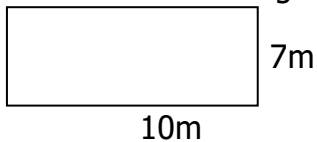
- A book - sh. 500 each
- An egg - sh. 300 each
- A bottle of soda - sh. 1500 per bottle
- A packet of biscuits - sh. 1200 each
- A packet of milk - sh. 1500 each.

i. How much will you pay for 2 books and a packet of milk?

ii. If Paul had sh. 5000 and bought an egg and a packet of biscuits. How much money remains?

iii. Which two items cost the same amount of money.

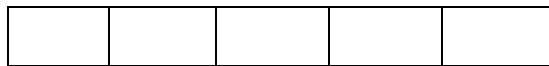
27. Below is a rectangle.



- i) Work out its area.
- ii) Work out its perimeter.
- iii) Write its width in centimetres.

Activity 2.

- 1. Write 20 in Roman numerals
- 2. Shade $\frac{2}{5}$ in the diagram.



- 3. Solve: $x + 3 = 5$
- 4. Share 9 books among 3 boys.



- 5. stands for 10 trees. Find the value of



- 6. Subtract: $\frac{7}{9} - \frac{3}{9}$

- 7. Liz spent Shs. 2000 on food and Shs. 1000 on airtime. How much money did she spend altogether?

- 8. Fill in with $<$, $>$ or $=$ correctly.

i) 2×4 _____ $2 + 4$

ii) $\frac{15}{3}$ _____ $15 \div 3$

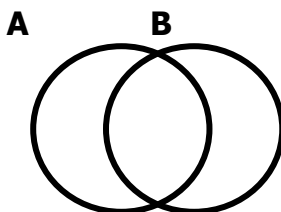
iii) XXX _____ XL

- 9. Change $3\frac{2}{3}$ into an improper fraction.

- 10. Express $\frac{8}{3}$ as a mixed fraction.

- 11. Write $\frac{3}{4}$ in words.

- 12. Shade the region Set A in the Venn diagram below.



13. Write 5,623 in words.

14. In a class of 64 pupils, 12 are absent. How many pupils are present?

15. There are 5 toes on each foot. How many toes do 8 feet have?

16. Subtract 15 from 69.

17. A mother shared 24 oranges equally among her 4 children. How many oranges did each child get?

18. Write 25 in Roman numerals.

19. Which month comes after March?

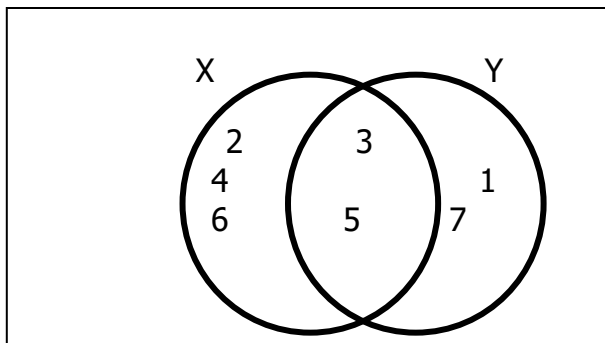
20. Write the place value of 6 in the number 47,630.

21. Round off 126 to the nearest tens.

22. Find the missing number.

$$\boxed{} + 4 = 12$$

23. Use the Venn diagram below to answer questions that follow



- i) List all elements of Set Y.
- ii) Find $X \cap Y$.
- iii) Find $X \cup Y$.

24. Arrange the following numbers starting from the greatest:

1 2 6 3 , 9 8 7 , 1 6 3 2 1 , 1 1 1 0 1 1

- i. Expand 2 3 5 6 in value form.
- ii. Find the short form of the given number;

$$6000 + 400 + 90 + 3$$

25. Work out:

$$\begin{array}{r} 1 \quad 5 \quad 0 \quad \text{litres} \\ + \quad 3 \quad 5 \quad 0 \quad \text{litres} \\ \hline \end{array}$$

$$\begin{array}{r} \text{kg} \qquad \qquad \text{g} \\ 4 \quad 4 \qquad \qquad 6 \quad 5 \quad 0 \\ - \quad 3 \qquad \qquad 4 \quad 5 \quad 0 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \quad 3 \quad 3 \\ \times \quad \quad 3 \\ \hline \end{array}$$

26. James is 16 years old. Jane is 5 years old.

- i) Who is older?
- ii) Calculate their total age?
- iii) How old will Jane be in 10 years time?

- 27 i. 7 days make a week. How many weeks are in 35 days?
- ii. Set $P = \{ \text{All days of the week that start with letter T} \}$. List down the members of Set P.
- iii. How many days are there in 3 weeks?