

Mathematics for senior 1

Activity 1: Highest common factor and Lowest common factor

a) find the HCF of the following:

i) 54, 48

ii) 42, 63, 105

iii) 132, 156, 204, 228

b) Find the HCF the following:

i. $2 \times 2 \times 3 \times 3 \times 3 \times 5 \times 5 \times 11$, $2 \times 2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 5 \times 7 \times 13$

ii. $23 \times 32 \times 5$, $25 \times 35 \times 52$

iii. 36, 60, 84

c) A rectangular field measures 616m by 456m. Fencing posts are placed along its sides at equal distances. What will be the distance between the posts if they are placed as far apart as possible? How many posts are required?

d) find the LCM of the following:

i. 28, 42, 98

ii. 35, 48, 56, 70

iii. 14, 21

e) Determine the smallest sum of money out of which a number of men, women and children may receive UGX. 75, Ush. 90 and Ush. 120 each.

Activity 2: Divisibility tests for some numbers

a) pick any number and determine which numbers divide it. Write a number under its divisor.

b) What can you say about the numbers under each divisor? Give reasons for your answers.

c) The relationship between the dividend and the divisor leads to divisibility tests.

d) Given the following numbers:

12, 132, 1212, 3243, 1112, 81, 18, 27, 279, 2580, 5750

Find out which of them are divisible by:

i) 3 ii) 4 iii) 6 iv) 9 v) 10

Activity 3: Fractions

1. Sarah shades $\frac{3}{7}$ of a shape. What fraction of the shape is left unshaded?
2. A cake is divided into 12 equal parts. John eats $\frac{3}{12}$ of the cake and Kate eats another $\frac{1}{12}$. What fraction of the cake is left?
3. A car park contains 20 spaces. There are 17 cars parked in the car park.
 - a) What fraction of the car park is full?
 - b) What fraction of the car park is empty?
4. Ali eats $\frac{3}{10}$ of the sweets in a packet. Tariq eats another $\frac{4}{10}$ of the sweets.
 - a) What fraction of the sweets has been eaten?
 - b) What fraction of the sweets is left?
5.
 - a) Draw a square with its four lines of symmetry.
 - b) Shade $\frac{3}{8}$ of the shape.
 - c) Shade another $\frac{2}{8}$ of the shape.
 - d) What is the total fraction now shaded?
 - e) How much is left unshaded?
6. Draw diagrams to show these improper fractions:
 - (a) $\frac{7}{2}$ (b) $\frac{8}{3}$ (c) $\frac{18}{5}$
 - d) Write each improper fraction as a mixed number.
7. Convert these mixed numbers to improper fractions.
 - (a) $1\frac{3}{5}$ (b) $7\frac{1}{3}$ (c) $3\frac{4}{5}$ (d) $6\frac{1}{9}$
8. Write these fractions in order of increasing size.
 $6\frac{1}{2}$, $\frac{18}{5}$, $3\frac{1}{4}$, $5\frac{1}{3}$, $\frac{17}{3}$
9. In an office there are $2\frac{1}{2}$ packets of paper. There are 500 sheets of paper in each full packet. How many sheets of paper are there in the office?
10. A young child is 44 months old. Find the age of the baby in years as a mixed number in the simplest form.