**NAME:……..CLASS:…..……**

**SECOND TERM E-LEARNING NOTES**
**JS3 (BASIC 9)**

**SUBJECT: MATHEMATICS**

**SCHEME OF WORK**

**WEEK TOPIC**

1. **Revision of first term work**
2. **Simple Equations involving Fractions**: Simple Equations involving fractions. Word problems leading to simple equations involving fractions
3. **Simultaneous Linear equations**: Compilations of tables of values. Graphical solution of simultaneous linear equations in two variables.
4. **Solution of simultaneous linear equations**: Method by elimination and method by substitution.
5. **Similar shapes**: identification of similar figures-triangles, rectangles, squares, cubes and cuboids. Enlargement and scale factor
6. Use of scale factor in calculating lengths, areas and volumes of similar figures.
7. **Trigonometry**: the sine, cosine and tangent of an acute angle. Applications of Tri gonometrical ratios to finding distances and lengths
8. **Area of plane Figures**: Area of plane figures-Triangles, parallelogram, trapezium and circle. Calculations of the areas of lands
9. **Construction**: Bisection of a segment-using a pair of compasses and a ruler. Bisection of an angle. Construction of angles $90^0$, $45^0$, $60^0$ and $30^0$. Copying giving angles. Solving quantitative reasoning aptitude problems on construction.
10. **Revision**.
11. **Examination**.

**WEEK 1**

Revision of Last Term's Work. The teacher should do a thorough revision of last term's work. Topics that were not well understood by the students or areas that were not well covered due to shortage of time or other reasons should be treated and class exercises, class activities, assignments, e.t.c should be given within this week.

**WEEK 2.**

**TOPIC: EQUATIONS WITH FRACTIONS**.

**CONTENTS**:

- Solving simple equations with fractions
- Word problems leading to fractions
- Word problems leading to equations with fractions

**SIMPLE EQUATIONS WITH FRACTIONS**

Equations such as $\frac{2}{3} + x = 1$, $\frac{3x}{2} + \frac{3}{5} = 10$, $\frac{2y}{5} = \frac{3}{5}$ e.t.c are equations involving fractions.

To solve any of these equations, we consider the L.C.M of the denominators and multiply each term of the equation by the L.C.M to clear the fractions and solve the equation as usual.

**Example 1**

Solve the equation: $\frac{x-4}{5} = 2 - \frac{x}{2}$

**Solution**

The denominators of the fractions in this equation are; 5 and 2.
L.C.M of 5 and 2 is 10.

We multiply through by this L.C.M.
i.e $10 \times \frac{(x-4)}{5} = (2 \times 10) - (10 \times \frac{x}{2})$
= $2(x - 4)$ = 20 - $5x$
Opening brackets we have,
$2x - 8$ = 20 - $5x$

Collecting like terms we have,

$5x + 2x = 20 + 8$

$7x = 28.$

Thus, $x = \frac{28}{7} = 4$

**Example 2**

Solve $\frac{2x}{3} + \frac{4}{5} = \frac{17}{15}$

**Solution**

The denominators are 3, 5 and 15.

Their L.C.M is…