Subject: Mathematics	**Second Semester**
Name:	Grade 6 (B, C, D, E, F)
Unit 7: Equations and formulae.	**Worksheet (3)**

Solving equations.

A **one-step equation** is an algebraic equation you can solve in only one step.

To solve one-step equations, we do the **inverse** (opposite) of whatever **operation** is being performed on the variable.

The inverse operations are:

- Addition and subtraction
- Multiplication and division

The most important thing to remember is that whatever you do to one side of the equation, **you have to do the same thing to the other side.**

Example: find the value of *x*.

$$x - 10 = 5$$
$$+ 10 \quad + 10$$
$$\overline{}$$
$$x = 15$$

Two-step equations.

A **two-step equation** is an algebraic equation you can solve in **two steps**.

Example:

$$7y + \cancel{5} = -2$$
$$\cancel{5} \quad -5$$
_____

$$7y = -2 - 5$$

$$7y = -7$$

divde both sides by 7

$$\frac{7y}{7} = \frac{-7}{7}$$

$$y = -1$$

Exercise: Find the value of the following variables.

1) $x + 5 = 9$

2) $10y - 5 = 5$

3) $3a + 4 = -5$

4) $-5b = 20$

5) $-9x - 4 = -22$

6) $6 + 2y = 54$

7) $13 - 5t = -20$

8) $\frac{n}{7} = 5$

9) $\frac{y}{5} + 6 = -2$

10) $6 - b = -10$

11) $3x - 5 = 19$

12) $18 = 8m + 6 - 4m$

13) $2x + 12 = 13$

14) $26 = 8x - 6$

15) $\frac{x}{3} + 4 = 8$

16) $4w = w + 3$

17) $\frac{d}{4} - 1 = 1$

18) $7 = \frac{g}{5} + 2$

19) $-5y = 50$

20) $13 - 6y = -5$

21) $8a + a - 15 = -4$

22) $36 = 6m$

23) $11 = 5 + e$

24) $2x + 10 = -20$