

المدرسة
الوطنية الأرثوذكسية
الشميساني



The National
Orthodox School
Shmaisani

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.

$$\begin{array}{r} x - 10 = 5 \\ + 10 \quad + 10 \\ \hline x = 15 \end{array}$$

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Two-step equations.

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

Example:

$$\begin{array}{r} 7y + 5 = -2 \\ -5 \quad -5 \\ \hline \end{array}$$

$$7y = -2 - 5$$

$$7y = -7$$

divide 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) $6 - b = -10$

$$11) 3x - 5 = 19$$

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

$$13) 2x + 12 = 13$$

$$14) 26 = 8x - 6$$

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

$$16) 4w = w + 3$$

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

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

$$19) -5y = 50$$

$$20) 13 - 6y = -5$$

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

$$22) 36 = 6m$$

$$23) 11 = 5 + e$$

$$24) 2x + 10 = -20$$