

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 (2)

Substitution.

You **substitute** for a variable in a formula by replacing the letter with its known value.

Example: $2y + 7$ and $y = 3$

 $2 * 3 + 7 = 13$

Exercise (1): Answer the following questions.

1) If $x = 5$ find the value of:

a) $x + 8$

b) $x - 3$

c) $15 - x$

d) $2x$

e) $3x - 1$

f) $50 - 4x$

2) If $p = 2$ and $q = 6$ find the value of:

a) $3 + 2p$

b) $20 - 3q$

c) $p - \frac{q}{3}$

Accredited by



Cambridge Assessment
International Education
Cambridge International School

edexcel

CIS
COUNCIL OF
INTERNATIONAL
SCHOOLS



معتدة من

d) $4p + 6q - 20$

e) $3q - 6p$

f) $\frac{q}{2}$

3) If $a = 5$, $b = 6$, $c = 1$, $d = -9$, find the value of:

a) $2a + b$

b) $11 + 3b$

c) $3b - a$

d) $d - 2c + 2a$

e) $10c - 2d$

f) $8a - 3c$

Exercise (2): Find the value of the following expressions if:

$x = 5$

$y = -2$

$p = -4$

$d = 7$

a) $x + 2y - 2p$

b) $p(x - y + d)$

c) $-4(d - p)$

d) $4x - 2p + 7d$

e) $-(5x - 2d - p)$

f) $x - y + p - d$

Formulae

A **formula** is a mathematical rule or relationship that uses letters to represent **amounts** that can be changed – these are called **variables**

Exercise (3): Answer the following questions.

1)

a) Write an expression for the number of grams g into y kilograms.

b) Derive a formula for the number of grams g into y kilograms.

c) Use your formula to find the number of grams in **14 kg**.

2) There are 8 tomatoes in a can of tomatoes.

a) Derive a formula for the number of tomatoes t , in c cans of tomatoes.

b) Use your formula to find the number of tomatoes in 7 cans of tomatoes.

3) The cost of hiring a babysitter in dollars is \$8 per hour.

a) Derive a formula for the cost of hiring a babysitter C in dollars for n hours.

b) Use your formula to calculate the cost of hiring a baby sitter for 12 hours.

4)

a) Derive a formula to convert D days into Y years if:

1 year  365 days

b) Use your formula to find out how many days we have in 5 years.

5) A plumber has a call-out fee of \$4, plus an hourly (h) rate of \$15.

a) Write a **formula** to calculate the total cost (T) of any job

b) Calculate the cost of a job estimated to take 4 hours.