



The National
Orthodox School
Shmaisani

Subject: Mathematics

First Exam Second Semester / Remedial Plan

Name:

Grade-Section: 8 CS

Date:

Teacher: Zain Hattar

Objective: Revise simplifying expressions using laws of indices, simplifying algebraic fractions, finding the product of two linear expressions, expanding, difference of two squares, perfect squares, substituting into expressions and formulae.

Question 1

Simplify. Write with a single positive index.

$$a^{-4} \times a^{-3} \times a^{15}$$

$$b^5 \times b^{12} \div b^{20}$$

$$27a^8 \div 9a^{-2}$$

$$(3b^4)^{-8}$$

$$9(ab^9)^2$$

Question 2

Collect like terms together and simplify.

- $-7y^2 + 3y^2 - 2w + 10w - 8w + 2m^2$

- $45cd + ab - 6ab - 5cd$

Question 3

Write as a single fraction in the simplest form. Show your work!

- $\frac{7}{y} + \frac{2y}{3} =$

- $1 - \frac{3}{w} =$

Question 4

Simplify the following algebraic fractions. Show your work!

- $\frac{6(a+6)}{36(a+6)} =$

- $\frac{24x^2 + 20x}{32x} =$

Question 5

Expand and simplify to the simplest form. Show your work!

- $3(x - 2)$

- $(x - 10)^2$

Question 6

Find the value of

- $4abc$
when $a = -2$, $b = 3$, $c = 1$

- $a^2 + 2a + 10$
when $a = -3$

Question 7

Complete the following statements:

$$x^2 - 49 = (x + \square) (x - \square)$$

$$x^2 - 36 = (x + \square) (x - \square)$$

$$x^2 + 8x + 16 = (x + \square)^2$$

Thank you!