The National
Orthodox School
Shmaisani

Subject: Mathematics

Second Exam / Remedial Plan

Name: **Grade-Section**: 8 CS

Date: **Teacher**: Zain Hattar

Objective: Revise irrational numbers, estimating square roots and cube roots, index laws, multiplying and dividing a number by a power of 10, standard form, lower and upper bounds.

Question 1

- Estimate the following square root to 1 d.p. Show all the steps of your working.

$$\sqrt{62}$$

- Estimate the following cube root to 1 d.p. Show all the steps of your working.

$$\sqrt[3]{200}$$

Question 2

Sort the following numbers into one of these three groups.

Put a tick (√) in the correct box.

Number	Rational	Irrational	Not rational or irrational
- 154			
$-\sqrt{25}$			
0.48			
$\sqrt[3]{-27}$			
2π			
$\sqrt[3]{216}$			
$\sqrt{-80}$			
$\frac{28}{3}$			

Question 3

Simplify using index laws. Show all the steps of your working and leave your answer in positive index form.

a) $3^{20} \times 3^{5} =$

b) $2^{19} \div 2^{5} =$

c) $7^{4} \div 7^{-3} =$

d) $19^{8} \times 19^{-8} =$

e) $\left(-\frac{1}{6}\right)^{0} =$

f) $\dfrac{(2 \times 2^4)^2}{2^{15}} =$

g) $\dfrac{(3^5 \times 3^3)^2}{(3^{10} \div 3^2)} =$

Question 4

Fill in the boxes:

a) ☐ x $10^2 = 54$

b) $4478 \div$ ☐ $= 0.4478$

c) ☐ x $10^{-4} = 84$

d) $0.054 \times$ ☐ $= 540$

e) $100 \times 10^{-1} + 0.6 \div 10^{-2} =$ ☐

Question 5

Write in standard form:

a) 2300 = _____

b) 0.0041 = _____

c) 789 000 = _____

d) 0.005 = _____

Question 6

Write an inequality to show the upper and lower bounds for a number, n, where n is:

a) 13.45 rounded correct to the nearest 2 d.p.

$\square \leq n < \square$

b) 300 rounded correct to the nearest 1 s.f.

$\square \leq n < \square$

NEVER
NEVER
NEVER
NEVER
GIVE
UP