WORLD MISSION HIGH SCHOOL

MATHEMATICS FOR LEVEL 4 ALL (MMP, NIT &SOD)

TIME FOR SUBMISSION: 15th SEPTEMBER 2025

Q1. Take your Senior 3 notebook, read and revise the SESSION on solving polynomials by factorization, and solving inequalities, then finish by correcting these exercises (Q3&Q4).

Q2. Using your L4 notebook, review Chapter 1: ***Determining and Analyzing Numerical Functions*****,** with special focus on the topic ***Domain of Definition***. Write a brief summary of what you have studied.

3 Solve the quadratic inequalities :

a) $x^2 - 1 \geq 0$

b) $x^2 - 16 \leq 0$

c) $-x^2 - 4x - 3 \geq 0$

d) $x^2 - 1 < 0$

e) $x^2 - 9x + 14 \geq 0$

f) $x^2 + 4x + 9 \leq 0$

g) $-x^2 - 2x + 8 > 0$

h) $x^2 - 6x + 7 < 0$

i) $x^2 - x - 12 < 0$

j) $2x^2 - 3x + 1 > 0$

k) $2x^2 + 3x + 4 > 0$

l) $x^2 - 8x + 12 \geq 0$

m) $4x^2 > 12x$

4 Solve the rational quadratic inequalities

a) $\dfrac{x^4 + x^2 + 1}{x^2 - 4x - 5} < 0$

b) $\dfrac{x^2 + 4x + 4}{2x^2 - x - 1} > 0$

c) $\dfrac{x^2 - 5x + 6}{x^2 + x + 1} < 0$

d) $\dfrac{1 - 2x - 3x^2}{3x - x^2 - 5} > 0$

e) $\dfrac{x^2 - 5x + 12}{x^2 - 4x + 5} > 3$

f) $\dfrac{x^2 - 3x + 24}{x^2 - 3x + 3} < 4$

END!!!!!!!!!!