MP 1 - MAKE SENSE OF PROBLEMS AND PERSEVERE IN SOLVING THEM.

• Explain the meaning of a problem and look for entry points to its solution.
• Analyze givens, constraints, relationships, and goals.
• Make conjectures about the form and meaning of the solution and plan a solution pathway.
• Consider analogous problems and try special cases/simpler forms to gain insight into solution paths.
• Monitor and evaluate progress and change course if necessary.

MP 2 – REASON ABSTRACTLY AND QUANTITATIVELY.

• Make sense of quantities and their relationships in problem situations; Consider the units involved.
• Decontextualize a problem by abstracting the situation, representing it symbolically, and working with the quantities and relationships; Contextualize problems throughout the solution process.
• Create coherent representations.
• Attend to the meaning of quantities, not just how to compute them.
• Know and flexibly use different properties of operations and objects.

MP 3 – CONSTRUCT VIABLE ARGUMENTS AND CRITIQUE THE REASONING OF OTHERS.

• Make conjectures and build a logical progression of statements to explore the truth of conjectures.
• Analyze situations by breaking them into cases; recognize and use counterexamples.
• Justify conclusions, communicate them to others, and respond to the arguments of others.
• Reason inductively about data, making plausible arguments that take into account the context from which the data arose.
• Compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is.

MP 4 – MODEL WITH MATHEMATICS.

• Apply mathematics to solve problems arising in everyday life, society, and the workplace.
• Make assumptions and approximations to simplify a complicated situation.
• Identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas.
• Routinely interpret mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

MP 5 – USE APPROPRIATE TOOLS STRATEGICALLY.

• Consider the available tools when solving a mathematical problem.
• Make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations.
• Use technology to visualize the results of varying assumptions, explore consequences, and compare predictions with data when making mathematical models.
• Identify relevant external mathematical resources, and use them to pose or solve problems.
• Use technological tools to explore and deepen understanding of concepts.

MP 6 – ATTEND TO PRECISION.

• Communicate precisely to others.
• Use clear definitions in discussion with others and in developing reasoning.
• State the meaning of the symbols chosen, including using the equal sign consistently and appropriately.
• Carefully specify units of measure, labeling axes to clarify the correspondence with quantities in a problem.
• Calculate accurately, efficiently, and express numerical answers with a degree of precision appropriate for the problem context.

MP 7 – LOOK FOR AND MAKE USE OF STRUCTURE.

• Look closely to discern a pattern or structure.
• Step back for an overview and shift perspective.
• See complicated things, such as some algebraic expressions, as single objects or as being composed of several objects.

MP 8 – LOOK FOR AND EXPRESS REGULARITY IN REPEATED REASONING.

• Notice if calculations are repeated, and look both for general methods and for shortcuts.
• Maintain oversight of the process while attending to the details while working to solve a problem.
• Continually evaluate the reasonableness of intermediate results.