The Eight Standards for Mathematical Practice

1. **Make sense of problems and persevere in solving them**
   Making sense and persevering are habits of mind needed by all students to be successful learners of mathematics. Before a student can engage in mathematics, they need to make sense of what they are being asked to consider.

2. **Reason abstractly and quantitatively**
   Reasoning abstractly requires that students make sense of quantities and their relationships in problem situations. Students decontextualize and contextualize mathematics; they translate problem situations into symbols which they are able to manipulate and, as they manipulate the symbols, refer back to the problem situation to make sense of their work.

3. **Construct viable arguments and critique the reasoning of others**
   Constructing arguments requires that students use stated assumptions, definitions, and previous results. They make conjectures, justify their conclusions, and communicate them to others. They respond to the arguments of others.

4. **Model with mathematics**
   Modeling with mathematics requires that students make assumptions and approximations to simplify a situation, realizing these may need revision later, and that students interpret mathematical results in the context of the situation and reflect on whether they make sense.

5. **Use appropriate tools strategically**
   Using tools strategically requires that students are familiar with appropriate tools to decide when each tool is helpful, know both benefits and limitations, detect possible errors, and identify relevant external mathematical resources and use them to pose or solve problems.

6. **Attend to precision**
   Precision refers to the accuracy with which students use mathematical language and symbols as well as precision in measurement.

7. **Look for and make use of structure**
   Looking for structure refers to students' understanding and using properties of number systems, geometric features and relationships, and patterns of a variety of types to solve problems.

8. **Look for and express regularity in repeated reasoning**
   Looking for regularity in repeated reasoning refers to the process of noticing repeated patterns or attributes and using those to abstract and express general methods, expressions or equations, or relationships.