



INVESTIGATE THE WORLD

How well does the student use mathematics to model and investigate a given issue, situation, or event?

- **MATH9-10.INV1.MODEL.** Develops a comprehensive mathematical model using all relevant information to describe a situation or to diagram a problem, reflects on the process and considers possible revisions, or adapts a previous model to be applicable to a new situation or problem.
- **MATH9-10.INV2.RLTNS.** Distinguishes how the mathematical relationships in a model reflect a situation or the elements of a problem and analyzes the parameters of the problem or situation for possible limitations of the model.
- **MATH9-10.INV3.RPRSN.** Effectively employs appropriate mathematical tools, procedures, or representations to explore the given issue, situation, or event.
- **MATH9-10.INV4.SELEC.** Formulates multiple appropriate solution strategies and evaluates how one or more will represent a correct approach and solve the problem.
- **MATH9-10.INV5.STRTG.** Generates multiple appropriate strategies to verify the solution with respect to the mathematics and the given context, and justifies the selection of a particular strategy using precise mathematical terminology.

RECOGNIZE PERSPECTIVES

How well does the student recognize the impact of his/her mathematical analyses on themselves and others?

- **MATH9-10.PERS1.ARGUE.** Presents a viable conjecture or conclusion and generates a convincing argument that is supported by the mathematical data and some analysis.
- **MATH9-10.PERS2.VRIFY.** Collaborates and seeks external verification or validation of the appropriateness of their model, tools, procedures, solutions, analyses, conclusions, arguments, or decisions, and considers possible revisions based external critique.
- **MATH9-10.PERS3.IMPLC.** Evaluates some implications of the conjecture, conclusion, decision, or arguments in the context of a wider range of reference, including national and global scales.
- **MATH9-10.PERS4.PERSP.** Recognizes, articulates, and addresses different perspectives by revising original ideas, using precise mathematical language when appropriate.
- **MATH9-10.PERS5.POSTN.** Engages in mathematical discourse justifying conjectures, conclusions, and procedures, critiquing the reasoning of others, and uses external critique to analyze, review, and begin to revise conjecture, conclusion, or procedure.

COMMUNICATE IDEAS

How clearly and accurately does the student communicate and defend his/her mathematical thinking, approaches, representations, solution, and decisions?

- **MATH9-10.COMM1.COMM.** Explains and justifies complex mathematical reasoning, concepts, procedures, and relationships using precise mathematical language in an organized and sequenced way, referencing visual representations.
- **MATH9-10.COMM2.DEFNS.** Defends a complex conclusion, conjecture, decision, or argument with relevant and accurate concepts, procedures, or data from the model using precise mathematical language.
- **MATH9-10.COMM3.SYMBL.** Decontextualizes a mathematical idea correctly using precise mathematical terms, symbols, and conventions, and contextualizes by evaluation of the process using precise mathematical terminology and symbols.
- **MATH9-10.COMM4.GRAMM.** Engages in clear oral and written mathematical discourse that is free of mathematical misconception and errors in grammar, usage, and mechanics.
- **MATH9-10.COMM5.MEDIA.** Selects appropriate media and uses them efficiently to communicate and evaluate mathematical ideas.

TAKE ACTION

How well does the student advocate for, engage in, and reflect on plausible and responsible actions that are supported by his/her mathematics?

- **MATH9-10.ACT1.ADVCT.** Advocates for multiple possible course of action that are plausible, responsible, and supported by mathematics.
- **MATH9-10.ACT2.ACTN.** Develops and implements a plan of action supported by the mathematics that is viable, manageable, and/or responsible that is primarily consistent with the argument, conclusion, or decision.
- **MATH9-10.ACT3.IMPRT.** Articulates the importance of the plan(s) of action within the context of the global community and identifies the limitations and potential improvements, supported by the data or conclusions.