INVESTIGATE THE WORLD

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

MATH11-12.INV1.MODEL

- I can develop a comprehensive mathematical model that fits a particular situation or problem. This means that I can use mathematics to create a representation, description, or quantification of some aspect of a situation or problem. It also means that the model should use all the relevant data and information provided.

- I can reflect on the process and revise. This means that I can think about what worked and what I would change next time. It also means that I can make changes to my model to make it more effective for the situation or problem.

MATH11-12.INV2.RLTNS

- I can demonstrate how the parameters of an issue, situation, or event are reflected in a model. This means that I can show my understanding of the characteristics of an issue, situation, or event, and how they are reflected in the mathematic model I create. It also means that I explained how I used all the relevant information.

- I can note reasonable restrictions from the context. This means that I can describe how specific parameters and missing variables affect the outcome of using my model.

MATH11-12.INV3.RPRSN

- I can effectively use appropriate mathematical tools, procedures, and representations to explore an issue, situation, or event. This means that I use mathematical tools, procedures, and representations in the best way to help make sense of an issue, situation, or event.

- I can use mathematical tools, procedures, and representations to analyze the issue, situation, or event. This means that I can use these tools, procedures, and representations to make sense of all the components of an issue, situation or event.

MATH11-12.INV4.SELEC

- I can determine which solution strategies are appropriate to use in solving a mathematical problem. This means that before using them, I can describe strategies that might help solve a mathematical problem.

- I can use appropriate solution strategies to solve a mathematical problem. This means that I can use the action plans I selected to achieve a correct mathematical solution. This also means that if I do not get the result I want, I can revise the strategy as appropriate.

MATH11-12.INV5.STRTG

- I can determine which strategies are appropriate to use in verifying my solution. This means that before using one, I can describe the strategies that might help me verify my solution to a mathematical problem.

- I can use an appropriate strategy to verify a solution to a mathematical problem. This means that I can use the action plan I selected to verify my mathematical solution. This also means that if I do not get the result I want, I can revise the strategy as appropriate.

RECOGNIZE PERSPECTIVES

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

MATH11-12.PERS1.ARGUE

- I can use my mathematical data and analyses to draw a solid conclusion or generate an argument. This means that I arrive at a conclusion about a problem using mathematical data and analyses as my evidence. This also means that I can generate an argument about a problem using mathematical data and analyses as my evidence.

- I can analyze and evaluate the data. This means that I can identify the elements of the data and determine their importance in supporting my conclusion or argument.

MATH11-12.PERS2.VRIFY

- I can collaborate with others to verify my mathematical operations. This means that I work closely with others to confirm the correctness and/or reasonableness of the mathematics used. This also means that I am focused on verifying the appropriateness of our models, tools, procedures, solutions, analyses, conclusions, arguments, and decisions.

- I can strengthen my outcomes by making revisions based on feedback. This means that I can take the ideas of others to revise my work for better results.

MATH11-12.PERS3.IMPLC

- I can evaluate the implications of my arguments and conclusions in a global context. This means that I can describe how my arguments and conclusions relate to the peoples and nations of the world, realizing that they are interdependent economically, socially, and politically and are closely connected by modern telecommunications.

MATH11-12.PERS4.PERSP

- I can recognize unintended consequences and different perspectives. This means that I can describe unexpected results of my arguments and conclusions or different perspectives on them that are based on other people's cultural, historical, political, social, or personal points of view.

- I can address unintended consequences and different perspectives. This means that I can describe what to do about the unexpected results of my arguments and conclusions, as well as what to do when people have different perspectives on them.

- I can revise original ideas when appropriate. This means that I can synthesize specific ideas from different perspectives, including my own, to modify my work.

MATH11-12.PERS5.POSTN

- I can maintain a perspective that is consistent with my arguments and conclusions. This means that I can describe a point of view that should agree with my arguments and conclusions, which are supported by mathematics.

- I can develop and strengthen my perspective by additional mathematical analyses or research. This means that I can make my point of view stronger by including additional mathematical understanding.

- I can evaluate other mathematics to challenge the conclusions or arguments. This means that I can analyze and determine the importance of other data to challenge my original conclusions or arguments.

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COMMUNICATE IDEAS

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

MATH11-12.COMM1.COMM

- I can explain mathematical concepts, procedures, and relationships. This means that I can describe mathematical concepts, procedures, and relationships in an organized and sequenced way.
- I can justify mathematical concepts, procedures, and relationships. This means that I can prove the correctness of mathematical concepts, procedures, and relationships in an organized and sequenced way.
- I can refer to visual representations to help explain mathematical concepts, procedures, and relationships. This means that I can use graphs, tables or other visual representations to effectively explain my thinking.

MATH11-12.COMM2.DEFNS

- I can defend my mathematical conclusion or argument. This means that I can use relevant and accurate concepts, procedures, or data drawn directly from a model I have constructed to defend my work.
- I can make reference to additional data or a secondary model. This means that I can go beyond my model to additional mathematical resources to defend my work.

MATH11-12.COMM3.SYMBL

- I can express mathematical ideas in multiple ways using mathematic terms, symbols, and conventions. This means that I use mathematic terms, symbols, and conventions to express similar mathematical ideas in different ways.
- I can evaluate the process. This means that I think about the whole problem, including my results, and evaluate if I used the best terms, symbols, and conventions.

MATH11-12.COMM4.GRAMM

- I can engage in clear mathematical discourse using simple, familiar mathematical terminology correctly. This means that I can use the language of mathematics to communicate verbally and in writing in a way that begins to enhance the meaning of what I am communicating. This also means that my work is correct in grammar, usage, and punctuation.

MATH11-12.COMM5.MEDIA

- I can select appropriate media. This means that I select media that is most appropriate for communicating my mathematical ideas.
- I can use media effectively. This means I use the media I have selected to best communicate my mathematical idea and that my use of the media is skillful and effective.
- I can evaluate and refine media choices. This means that I can think about the pros and cons of my media choices based on communication results and then make adjustments in how I use media in the future.

TAKE ACTION

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

MATH11-12.ACT1.ADVCT
- I can extend elements of a course of action. This means that I can take the action beyond the original audience or the original scope of the work.

MATH11-12.ACT2.ACTN
- I can develop a plan of action that is primarily consistent with my argument, conclusion, or decision. This means that I am able to describe a plan of action that is supported by mathematics, realistic, and responsible.
- I can engage in a plan of action that is consistent with my argument, conclusion, and decision. This means I am able to execute the plan or manage it.

MATH11-12.ACT3.IMPRT
- I can articulate the importance of my plan of action. This means that I can describe in detail why my plan is important. It also means that I can connect my plan to the peoples and nations of the world, with specific emphasis on economic, social, and political interdependence and that they are closely connected by modern telecommunications.
- I can identify potential limitations. This means that I can anticipate some connected ideas that my plan cannot address.
- I can identify potential improvements. This means that I can list ways that my plan can be made better.
- I can evaluate limitations and improvements. This means that I can think about the pros and cons of each limitation or improvement I've identified.

Version 1.1