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Mathematical writing rubric

Please score each student work with the following 1-5 rating for each category.

Trait	Does not meet (1)	Attempted (2)	Approaches (3)	Meets (4)	Exceeds (5)	Score
1. Assignment Requirements	The writer is off topic and/or omits most or all of the assignment requirements.	The writer addresses the appropriate topic but only superficially addresses the assignment requirements.	The writer addresses the appropriate topic and meets the assignment requirements.	The writer addresses the appropriate topic and clearly and correctly fulfills each aspect of the assignment requirements.	The writer addresses the appropriate topic and clearly, correctly, and concisely fulfills each aspect of the assignment requirements.	
2. Reasoning (proof)	The logical connection of the argument is weak, leaving the argument or explanation unclear. A “proof by example” falls here.	The reasoning offers apparent support for the argument, but the argument or explanation is weak.	Collectively, the logic offers adequate support for the argument, but the argument or explanation remains unclear or incomplete.	Collectively, the logic supports and advances the argument or explanation of the proof.	Collectively, the logical steps offer compelling support which clearly advances the argument or explanation of the proof.	
3. Quality of Details	Details are superficial or do not develop the proof.	Details are loosely related to the proof. Many do not provide supporting statements, credible evidence, or the examples necessary to explain or persuade adequately.	Details are related to the proof but inconsistently provide supporting statements, credible evidence, or the examples necessary to explain or persuade adequately.	Details provide supporting statements, credible evidence, or the examples necessary to explain or persuade adequately.	Compelling details provide supporting statements, credible evidence, or the examples necessary to explain or persuade effectively.	
4. Quantity of Details	Virtually no relevant details are present.	Additional relevant details are needed to develop most points.	Additional relevant details are needed to develop some points.	All points are developed, but some may need additional relevant details or some excess may be present.	All points are supported by a sufficient number of relevant details with no excess.	
5. Word Choice and Terminology	Word choice or terminology is consistently inaccurate or inappropriate; many words or terms are notably misused.	Word choice or terminology is vague, limited, or repetitive, reflecting a weak grasp of the language appropriate to the proof.	Word choice and terminology is generally accurate, but reflects a partial or inconsistent grasp of the language appropriate to the proof.	Word choice is consistently appropriate and terminology is accurate, and reflects a strong grasp of the language appropriate to the proof.	Word choice and terminology are consistently accurate, rich, and reflects a nuanced grasp of the language and terminology appropriate to the proof.	

Trait	Does not meet (1)	Attempted (2)	Approaches (3)	Meets (4)	Exceeds (5)	Score
6. Purpose	The purpose of the paper is not evident.	The writer presents multiple conflicting purposes or the purpose is inappropriate for the assignment / prompt.	The writer's purpose is present and appropriate for the assignment, but not all elements clearly contribute to the purpose.	The writer's purpose is present, appropriate for the assignment, and maintained throughout the paper.	All elements of the paper clearly contribute to the writer's purpose, which is maintained throughout the paper and appropriate for the assignment.	
7. Reasoning (writing)	The connection of the paragraph topics to the main idea of the paper is weak, leaving the argument or explanation unclear.	Collectively, the paragraph topics offer apparent support for the argument of the paper, but the argument or explanation is weak.	Collectively, the paragraph topics offer adequate support for the argument of the paper, but the argument or explanation remains unclear or incomplete.	Collectively, the paragraph topics offer relevant support which clearly advances the argument or explanation of the paper.	Collectively, the paragraph topics offer compelling support which clearly advances the argument or explanation of the paper.	
8. Opening	The writer does not include an opening, or the opening is unrelated to the main idea.	The writer's main idea is not clear from the opening.	The writer uses the opening to identify the main idea, but does not prepare the reader for the body of the paper.	The writer uses the opening to introduce the main idea and prepares the reader for the body of the paper.	The writer uses the opening to introduce the main idea, capture the reader's attention, and prepare the reader for the body of the paper.	
9. Coherence Devices / Techniques / Strategies	Transitional words, phrases, sentences and paragraphs (coherence devices) are absent, or, if attempted, are ineffective.	Transitional words, phrases, sentences and paragraphs (coherence devices) are attempted, but are often ineffective.	Transitional words, phrases, sentences and paragraphs (coherence devices) appear throughout the paper, but additional and appropriate connectors would enhance the flow.	Transitional words, phrases, sentences and paragraphs (coherence devices) are effective and rarely missing.	Transitional words, phrases, sentences and paragraphs (coherence devices) smoothly connect the paper's elements, ideas and/or details, allowing the reader to follow the writer's points effortlessly.	

Trait	Does not meet (1)	Attempted (2)	Approaches (3)	Meets (4)	Exceeds (5)	Score
10. Paragraph Construction & Sequencing	There are no paragraph breaks, or paragraphs are not adequately developed. Ideas presented may be unrelated to the main idea of the paper and/or be presented illogically.	Paragraphs are attempted, but some breaks or paragraphs may be misplaced or missing. Several paragraphs are not adequately developed, include multiple ideas, or ideas that are unrelated to the main idea of the paragraph.	Paragraphs are related to the main idea of the paper, but a limited number may be misplaced or include more than one idea. Paragraphs are adequately developed.	Paragraphs support the main idea of the paper and are ordered logically. Paragraphs are thoroughly developed, but an occasional paragraph may not be unified around a single idea.	Each paragraph is unified around an idea that relates to the main idea of the paper. All paragraphs support the main idea, are thoroughly developed, and are ordered logically.	
11. Closing	Closing is absent or introduces unrelated ideas.	Closing does not summarize the paper and may introduce new or vague ideas, but presents a few elements that are consistent with the main idea.	Closing summarizes the elements and generally supports the main idea.	Closing summarizes the elements, supports the main idea, and concludes the paper.	Closing synthesizes the elements, fully supports the main idea, and concludes the paper.	
12. Audience	The paper is inappropriate for the audience in terms of point of view, or the intended audience is unclear.	The paper reveals some confusion about point of view for the intended audience, or addresses the audience on an inappropriate level.	The paper illustrates the appropriate point of view for the intended audience, but has lapses in anticipating the needs of its audience.	The paper illustrates the appropriate point of view for the intended audience, but has rare lapses in anticipating the needs of its audience.	The paper addresses the appropriate audience with a consistent point of view that keenly and accurately anticipates the audience's needs and expectations.	
13. Sentence Construction	Sentence structure is simple and repetitive. Complex structures are uniformly unsuccessful. Many sentences are unintentionally fused, run-ons, or fragments.	Sentence structure is typically simplistic, and complex structures are attempted with little success. Several sentences are unintentionally fused, run-ons, or fragments.	Sentence length and variety is limited, but complex structures are attempted with some success. Any fragments are used intentionally for effect.	Variances in sentence complexity, length, and variety are successfully achieved, although these may be limited. The degree of complexity is appropriate for the audience and purpose of the paper.	Sentences vary when appropriate, with an appropriate degree of complexity for the audience and purpose of the paper.	

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14. Conventions (Grammar) and Mechanics	Most sentences exhibit multiple grammatical and mechanical errors, negatively affecting clarity and readability.	A variety of grammatical errors appears throughout the paper, possibly affecting clarity and readability.	A limited variety of grammatical errors exists, and may occasionally affect clarity and readability.	Rare grammatical and mechanical errors exist but do not affect clarity or readability.	All sentences are grammatically and mechanically correct.	
15. Format or Style Consistency	Standard mathematical formatting is not attempted.	Standard mathematical formatting is attempted but inaccurate, or multiple style guidelines are mixed.	Standard mathematical formatting is used, with multiple lapses.	Standard mathematical formatting is used throughout the paper, with few exceptions.	Standard mathematical formatting is used consistently and accurately throughout the paper.	
16. Quality of Visuals (Images, Tables, Figures, Examples, etc.)	The relationship between the visual representations (if present) and the text is unclear or nonexistent. The visual representations are incorrect, unclear, mislabeled, or extraneous to the argument of the project.	Visual representations do not convey information clearly. Some images visual representations may be incorrect, repetitive, or extraneous to the argument of the project.	Visual representations convey information clearly, but an occasional image or visual representation is accurate but not adequate to convey the argument of the project with precision.	Visual representations are convey information clearly and concisely. All representations accurately and adequately convey the argument of the project with precision.	Visual representations are efficient and convey large amounts of information clearly and concisely. Complete ideas and concepts may be presented in accurate self-explanatory visual constructs.	
17. Quantity of Visuals	Visuals are not used but are needed to support or clarify the text.	Visual artifacts such as pictures, graphics, tables, equations, etc., are used occasionally to enhance or focus written communications.	Visual artifacts such as pictures, graphics, tables, equations, etc., are used regularly but additional examples are needed to enhance or focus written communications.	Visual artifacts such as pictures, graphics, tables, equations, etc., are incorporated throughout the document to enhance or focus written communications.	All manner of visual artifacts such as pictures, graphics, tables, equations, etc., are incorporated throughout the document to enhance or focus written communications.	