

Argument-Centered Component	1	2	3	4	5
Specific Content Knowledge	Very little if any reference to specific content concepts and terms	Some reference to specific content concepts and terms, but no clear indication of understanding -- some mistakes made in terms and concepts	Numerous references to specific content concepts and terms -- clear indication of an understanding of terms and concepts	Fully sufficient reference to specific content concepts and terms -- strong evidence of understanding of terms and concepts -- thoroughly assimilated use of the algebraic graph	Expert reference to algebraic graph and its terms -- advanced understanding of terms and concepts -- creative and insightful use of specific content knowledge
Argumentative Claims	Argumentative claims unclear and unfocused ---- Argumentation shifting and utterly inconsistent	Argumentative claims somewhat unclear, slightly unfocused ---- Argumentation sometimes inconsistent or irrelevant	Argumentative claims are clear -- -- Argumentative claims mainly separated, focused, and coherent, but with some flaws present ---- Argumentation mostly but not always consistent	Argumentative claims fully clear -- -- Argumentative claims well organized, separated, focused, and coherent ---- Argumentation fully consistent	Argumentative claims are clear -- -- Argumentative claims flawlessly separated, focused, and coherent ---- Argumentation not only consistent, but also especially insightful and creative
Evidence and Reasoning	Very little if any evidence and reasoning used at all ---- No demonstrated understanding of the role of evidence and reasoning in argument ---- No reference to other teams' evidence	Some limited use of evidence and reasoning ---- Partial understanding of the role of evidence and reasoning in argument ---- Evidence lacking in warrants and credibility	Most arguments supported with evidence and solid reasoning ---- Basic understanding of the role of evidence and reasoning ---- Evidence has some warrants and some credibility	All arguments supported by evidence and strong reasoning ---- Evidence is aligned with claims, though not always perfectly ---- Sometimes not properly formatted ---- Some examples of especially persuasive reasoning	Evidence and reasoning very precisely supportive of each argumentative claim ---- Evidence contains or is supplemented by highly persuasive warrants ---- Evidence properly formatted ---- Evidence highly credible
Refutation	Very little if any refutation of counter-arguments ---- Almost or actually no engagement at all with other views ---- No evidence of critical thinking	Some limited and incomprehensive refutation of counter-arguments ---- Refutation often indirect ---- Not much depth of critical thinking	Most arguments are responded to, often partially refuted ---- Refutation sometimes direct, sometimes indirect ---- Refutation has signs of critical thinking depth	Basically comprehensive refutation of counter-arguments ---- Refutation mostly direct ---- Solid, engaged level of critical thinking	High-level counter-arguments responded to or refuted ---- Refutation both very direct and very comprehensive ---- Advanced critical thinking leading to persuasive refutation
Evaluation	Very little if any attempt made to evaluate competing or contradictory evidence or reconcile contradictions ---- No argumentative closure	Some attempt made to evaluate competing evidence but ineffectively ---- No coherent narrative to synthesize disparate evidence ---- Evaluation lacks evidence basis	Marginally to moderately effective evaluation of competing evidence ---- Flawed narrative offered to reconcile contradictions ---- Evaluation has limited evidence basis	Fully intentional effort to evaluate competing evidence ---- Narrative synthesizes disparate arguments, with some evidence basis ---- Most issues fairly well closed	Thorough evaluation of competing evidence reconciled in favor of the writer ---- Evidence-based narrative pulls together all strands in the data set ---- All major issues closed