

Partner Proofs and Counterexamples

Standard: Students can create counterexamples to contradict false conjectures.
Students can construct logical arguments from conditional statements.
Students can identify and explain properties of points, lines, and planes.
Students can identify and explain properties of segments and rays.
Students can identify and explain properties of angles.
Students will remain on-task while working with others.
Students will effectively critique the reasoning of others.

Task: You will create three geometric proof style claims. At least one must be true, and one must be seemingly true but actually false. Your partner will then write proofs or counterexamples to each of the three examples, which you will critique. You will turn in three pages, the first with your original claims. The second with a copy of your partners claims along with your proofs and counterexamples. The third will have the critiques of your partner's work, answering the following questions:

- Was your partner accurate?
- Was his or her thought process logical?
- Was there any errors in the application of the proof or the explanation of the counterexample?
- What would you suggest to your partner so he or she could improve?

As you are working, I will walk around to answer questions and observe whether you are remaining on-task or not.

Your work will be graded using the following rubric:

	Unsatisfactory 0-1pt.	Fair. 2 pts.	Satisfactory 3 pts.	Excellent 4 pts.
Claims	Less than two claims or two claims with both true or both false.	Two claims, one is true and one is false.	Three claims, but all or true or all are false.	Three claims, at least one true and one false.
Proofs (Per proof)	Few or no proof steps are logical and valid.	Some proof steps are logical and valid.	Most proof steps are logical and valid.	All proof steps are logical and valid.
Counterexample (Per C/E)	Counterexample is inaccurate and weakly supported.	Counterexample is inaccurate but well supported.	Counterexample is accurate with weak support.	Counterexample is accurate and well supported.
Critique	Critique is missing or only one question is answered effectively	Two questions are answered effectively .	Three questions are answered effectively .	All four questions are answered effectively .
on-task	Student was seen off-task 4+ times.	Student was seen off-task 2 – 3 times.	Student was seen off-task 1 time.	Student was on task entire time.