

• **Def.** A conjecture is a statement that we believe is plausible. That is, we think it might be true, but we have not yet formulated a proof to show that it is indeed true.

▷. **Conjecture A.** If  $a$ ,  $b$ , and  $c$  are integers, then  $ab + ac$  is an even integer.

▶. Is Conjecture A true or false? Justify your answer.

**Hint.** You should understand that the instructions means to do one of the following.

- If Conjecture A is false, then say Conjecture A is false and also justify by providing a counterexample (i.e., an example which shows the conjecture is false). Explain why your counterexample shows that the conjecture is false
- If Conjecture A is true, then say Conjecture A is true and also justify by providing a proof.

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DELETE this whole sentence and THEN put your answer to ALL parts down here.