

- Recall Symbolically Write Guidelines, which is posted homework page and handout page for your convenience.
 - If you need, look at the LaTeX here to remind yourself how to Latex:
 $n|a$ (i.e., n divides a), $n \nmid a$ (i.e., n does not divide a), and $a \equiv b \pmod{n}$ (i.e., a is congruent to b modulo n).
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Exercise. A variant of Exercise 3.6.12a. (Covers §3.5)

§3.6
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Conjecture 1. If a and b are integers, then $(a + b)^2 \equiv (a^2 + b^2) \pmod{2}$.

i. Symbolically write Conjecture 1.

cut this out and put your solution here

ii. Determine if Conjecture 1 is true or false. If Conjecture 1 is true, then write a formal proof of Conjecture 1. If Conjecture 1 is false, then provide a counterexample that shows (and clearly explains) why Conjecture 1 is false.