

- 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 3.2.14 parts b and c.

§3.2
p114

Are the following conjectures true or false? Justify your conclusion. Justify means the the following. If the conjecture is true, then write a formal proof of the conjecture. If the conjecture is false, then provide a counterexample that shows (and clearly explains) why the conjecture is false.

b. Conjecture B. There exist integers x and y such that $6x + 15y = 2$.

cut this out and put your solution to part **(b)** here

c. Conjecture C. There exist integers x and y such that $6x + 15y = 9$.

Hint. First, can you algebraically simplify? If $ax + by = c$ for integers a , b , c , x and y and, furthermore, a is a natural number, then what can you say, working mod a , about c and by ?

cut this out and put your solution to part **(c)** here