8/28 Homework 3

Let a be even and b be odd. Prove ab is even

Statement	Reason
$2 \mid a$ & $2 \nmid b$	Given
$a = 2k$	Defn of even
We have $ab = 2L$	Defn of even
$2kb = 2L$ -> This shows that ab is only even if a is even	By substitution
$2 \mid 2k$ & $2 \mid 2L$ but $2 \nmid b$	By defn of even