7   A student wishes to prove that, for all positive integers a and b, $a^2 - 4b \neq 2$.

(a) Prove that $a^2 - 4b = 2 \Rightarrow a$ is even.   [2]

(b) Hence or otherwise prove that, for all positive integers a and b, $a^2 - 4b \neq 2$.   [3]