1. [**12 Points**] A computer has a clock rate of 400 MHz and when a particular program is run on it has an average CPI of 5. However, not all the instructions take the same number of cycles. In particular, half the instructions in the program are fancy instructions taking 7 cycles.

   A proposal is made to change the computer's design. The change would allow the fancy instructions to be done in 5 cycles rather than 7. Other instructions would take the same number of cycles as before. However, the clock rate would need to be slowed to 300 MHz. Assume that the program is not changed at all.

   In order to determine whether the proposed change is an improvement or not, calculate the MIPS for the program on the old machine and the MIPS for the program on the proposed new machine. Should the change be made?