ELECTRONICS II_metinyazgi	Spring-2021	Quiz-4

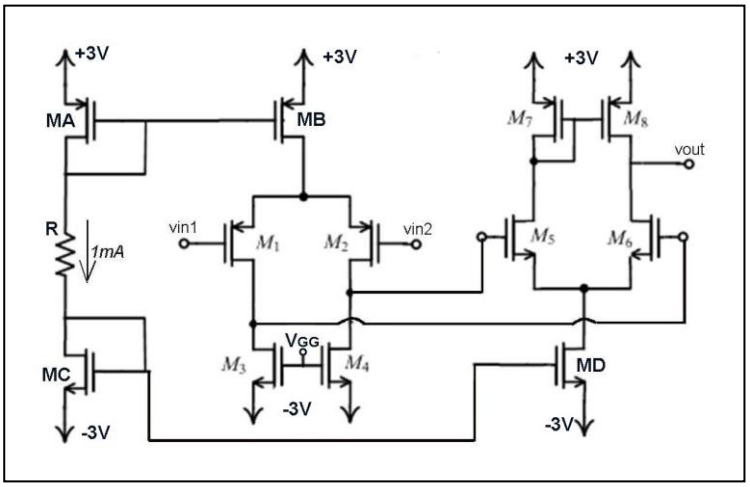
For all of the transistors in the figure, $\beta=2mA/V^2$, $|V_{Th}|=1V$ and $V_A=100V$ are given.

a) Find R and V_{GG}.

b) A diode-connected PMOS transistor will be used in place of **R**. Find β_P value of the PMOS transistor.

c) Obtain V_{GG} by using diode-connected NMOS transistors (2 transistors). Draw the structure. Find β_N values of the transistors.

d) Find the differential gain (Ad=vout/[vin1-vin2]).



e) Find CMRR of the whole circuit. **(Note that CMRR is not ∞)**