Problem 10

Consider the common source amplifier shown below. Assume NMOS transistor has the following parameters: $KP=75 {μA}/{V^{2}}$, $L=10 μm$, $W=400 μm$, $r\_{d}=\infty $, and $V\_{to}=1 V$.

1. If Rin = 250 kΩ, find the values for R1 and R2 to achieve $I\_{DQ}=2 mA$.
2. Determine the voltage gain.

 