Quiz:

Construct the small-signal model of the following ckt.

![Circuit Diagram]

Assume

1. The MOSFET is in **linear** region
2. High frequency
Answer:

\[ g_m = \frac{dI_D}{dV_{Gs}} \bigg|_{V_{GSO}} = 2KNV_{DSS} \]

\[ R_0 = \frac{1}{\frac{dI_D}{dV_{DS}} \bigg|_{V_{DSS}}} = \frac{1}{2KN(V_{GSO} - V_{TH} - V_{DSS})} \]