Using the common source JFET characteristics from Diefenderfer and Holton Fig. 8.16, find the resistor values that would put the working point of the amplifier, shown below, at $V_{GS} = -1.5\text{V}$ for $V_{DD} = 15\text{ V}$ and $R_D + R_S = 1.5\text{k}\Omega$. Are the biasing resistors $R_1$ and $R_2$ necessary or is the self-bias with $R_S$ sufficient? What would be the AC voltage gain, $A = \Delta V_{out}/\Delta V_{in}$ for this choice of component values? What bypass capacitor, $C_S$, should be placed in parallel with $R_S$ if the amplifier is to amplify signals down to 30 Hz?