

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  $V_{GS} = -1.5V$  for  $V_{DD} = 15V$  and  $R_D + R_S = 1.5k\Omega$ . 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?

