Problem 1

![Op Amp Circuit Diagram]

Use ±15V DC supplies

a) By hand find the transfer curve
b) Calculate numerical values for UTP & LTP
c) Plot the transfer curve using PSpice, use cursors to find UTP & LTP

Problem 2

Design a Schmidt Trigger with the transfer curve below

![Schmidt Trigger Transfer Curve]
Problem 3

An LM324 can be used as a single sided opamp. One used as a single sided opamp, one supply is grounded.

\[ 0 \leq V_o \leq V_{cc} \]

This configuration only requires one supply, but the output is limited between 0 and \( V_{cc} \).

- For the LM324 below, assume \( V_{omax} = V_{cc} - 1 \)
- Assume \( V_{omin} = 0 \)

- Repeat Problem 1 for the Ckt below
Problem 4

Design an op-amp circuit which implements the transfer curve below:

\[ \text{Slope} = -1 \]

\[ \text{Slope} = 1 \]