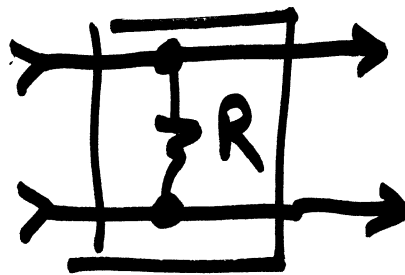
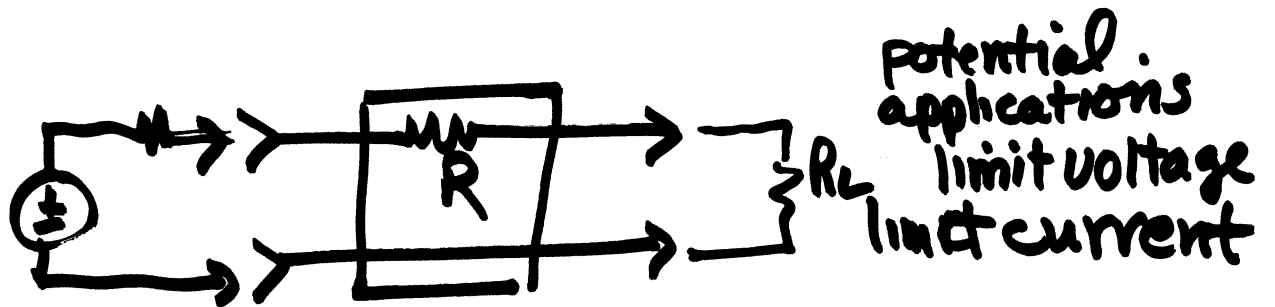
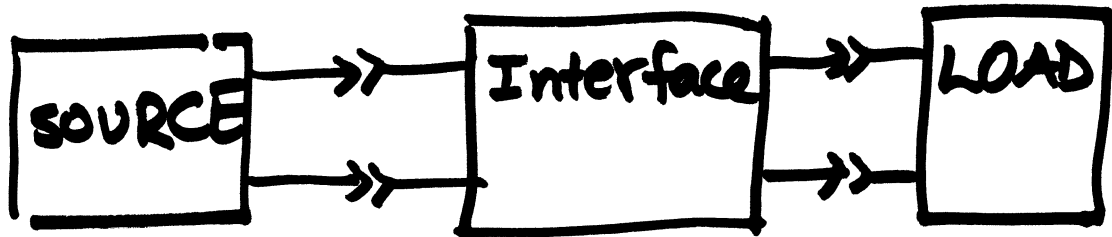
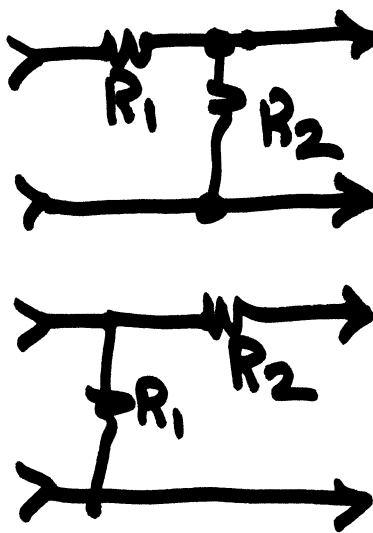


INTERFACE CIRCUITS DESIGN



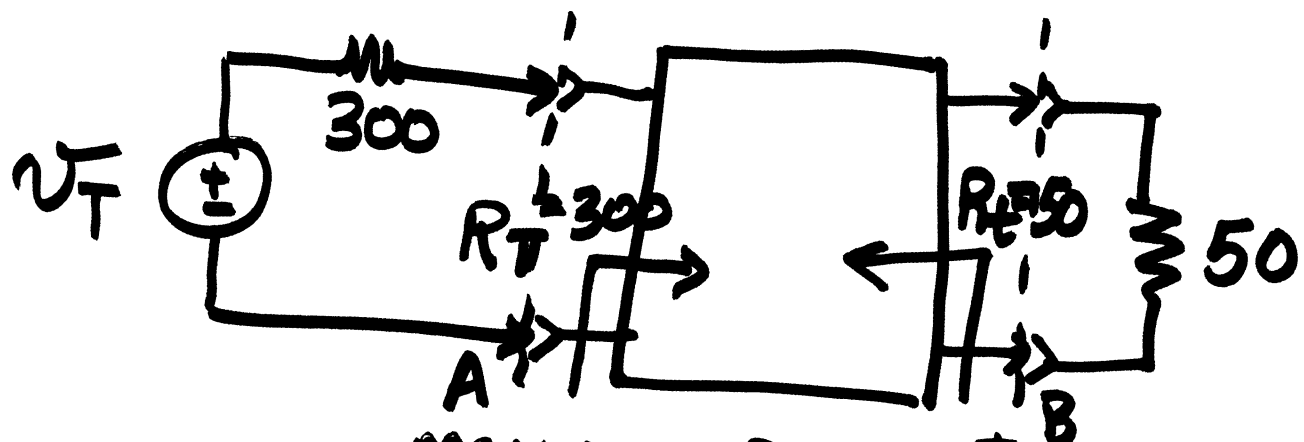
resistance matching for maximum power



voltage division

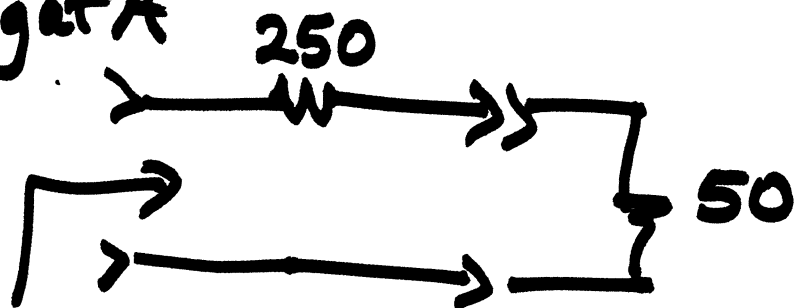
current division

DESIGN EXAMPLE 3-23



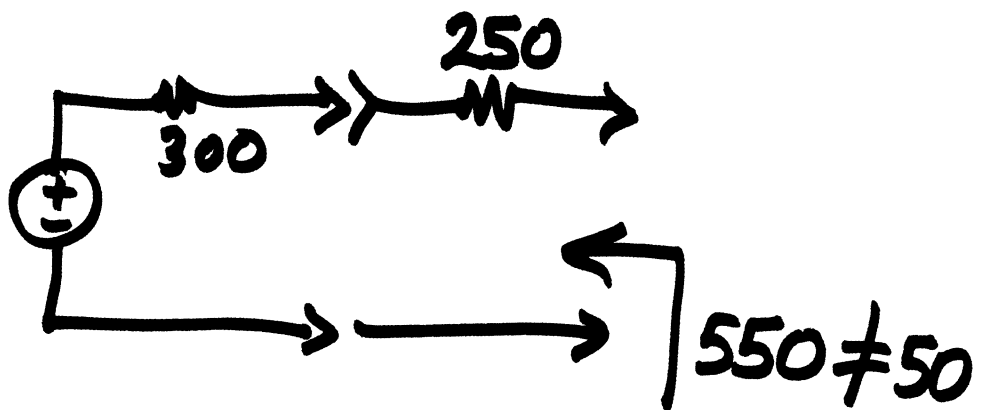
maximum power to
the 50Ω resistor.

looking at A



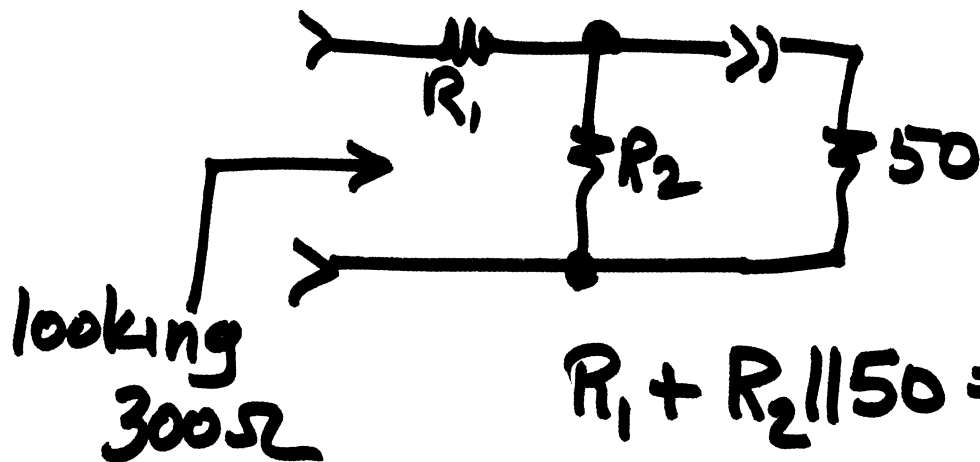
300

looking at B



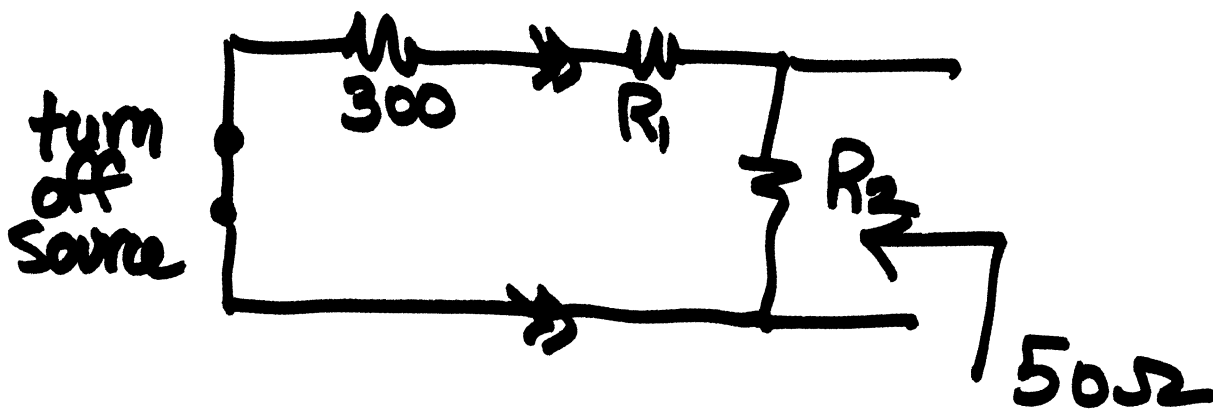
550 ≠ 50

two resistor networks



$$R_1 + R_2 \parallel 50 = 300$$

$$R_1 + \frac{R_2 \cdot 50}{R_2 + 50} = 300$$

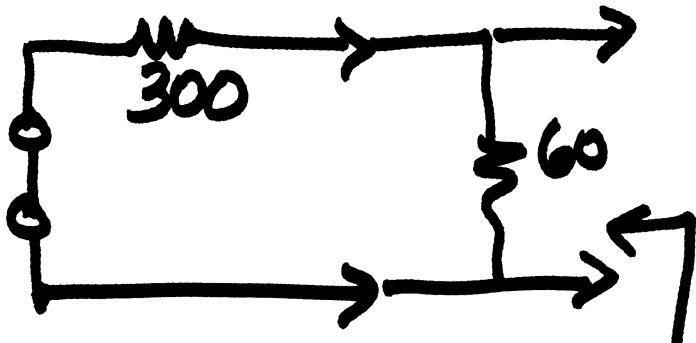


$$R_2 \parallel (R_1 + 300) = 50$$

$$\frac{R_2 (R_1 + 300)}{R_2 + R_1 + 300} = 50$$

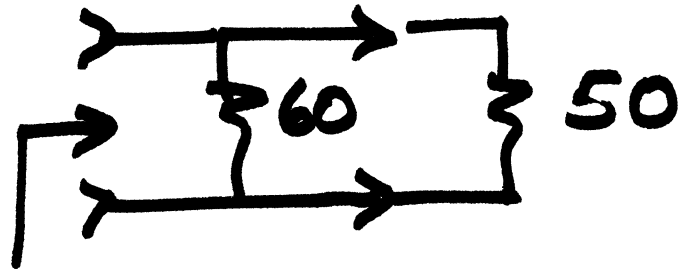
$$R_1 = 273.9 \quad R_2 = 54.8$$

27
Turn
off



$$\frac{60 \cdot 300}{60 + 300} = 50$$

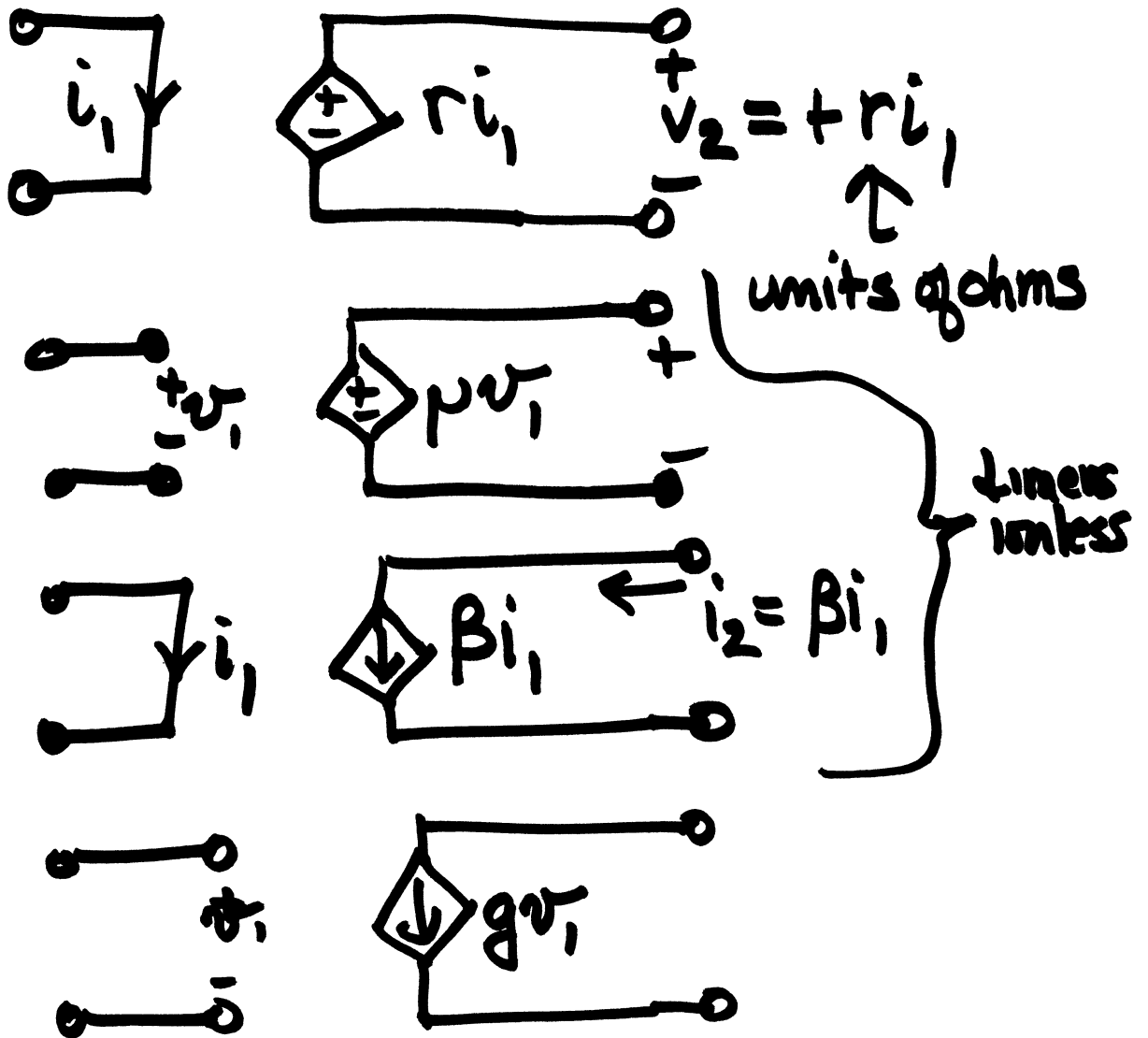
looking at A



$$\frac{300 \cdot R}{300 + R} = 50$$

looking at B
I want 50Ω

LINEAR DEPENDENT SOURCES



QUIZ RULES

- ① DO NOT SIT TOGETHER
SIT AT LEAST ONE SEAT AWAY
FROM OTHERS IN YOUR ROW
- ② CALCULATORS AVAILABLE. ASK!
- ③ PUT ANSWERS ON LINES OR IN BOXES
AS INDICATED
- ④ LATE STUDENTS
SPECIAL NEEDS STUDENTS (SEE ME)
ROCKEFELLER 304
- ⑤ PUT QUIZZES IN BOXES
ACCORDING TO LAB DAY.