## **Operational Amplifier Exam Practice Problems**

## Problem 1:



Given two input voltages Va and Vb, which cannot be detached from ground, design an ideal operational amplifier circuit which has Va-Vb as its output voltage. Assume that the amplifier will always be operating in its linear region (i.e., ignore the rail voltages).

## Problem 2:

The feedback resistor  $R_f$  is adjusted so that the ideal operational amplifier saturates (hits a rail). What is the value of  $R_f$ ?



## Problem 3:



Find the Thevenin equivalent with respect to a and b in the ideal operational amplifier circuit at left. Assume the amplifier is operating in its linear region.