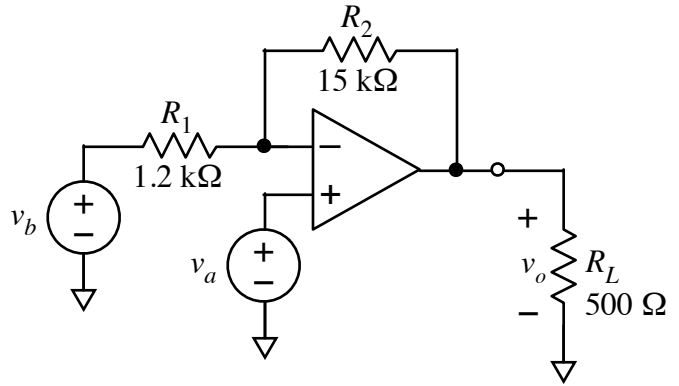The op amp in the circuit at right is ideal.

a.   Calculate the expression for the output voltage as a function of the two input voltages, v_a and v_b

$v_o =$ _____

b.   If $v_a = 1$ V and $v_b = 0.33$ V, what is the value of the output? $v_o =$ _____

c.   What is the output if $v_a = 1$ V and $v_b = 0.33$ V and $R_L = 2$ kΩ? $v_o =$ _____

d.   What is the output if $v_a = 1$ V and $v_b = 0.33$ V and $R_L = 125$ Ω? $v_o =$ _____

e.   if $v_a = 1$ V and $v_b = 1.33$ V and $R_L = 500$ Ω, what is the total power being delivered by the input voltage sources and what is the power being delivered to the load? How do you account for the difference?

$P_{va} + P_{vb} =$ _____; $P_{RL} =$ _____

Write your answers — and whatever work will fit — on this sheet. Staple any sheets with additional work behind.