

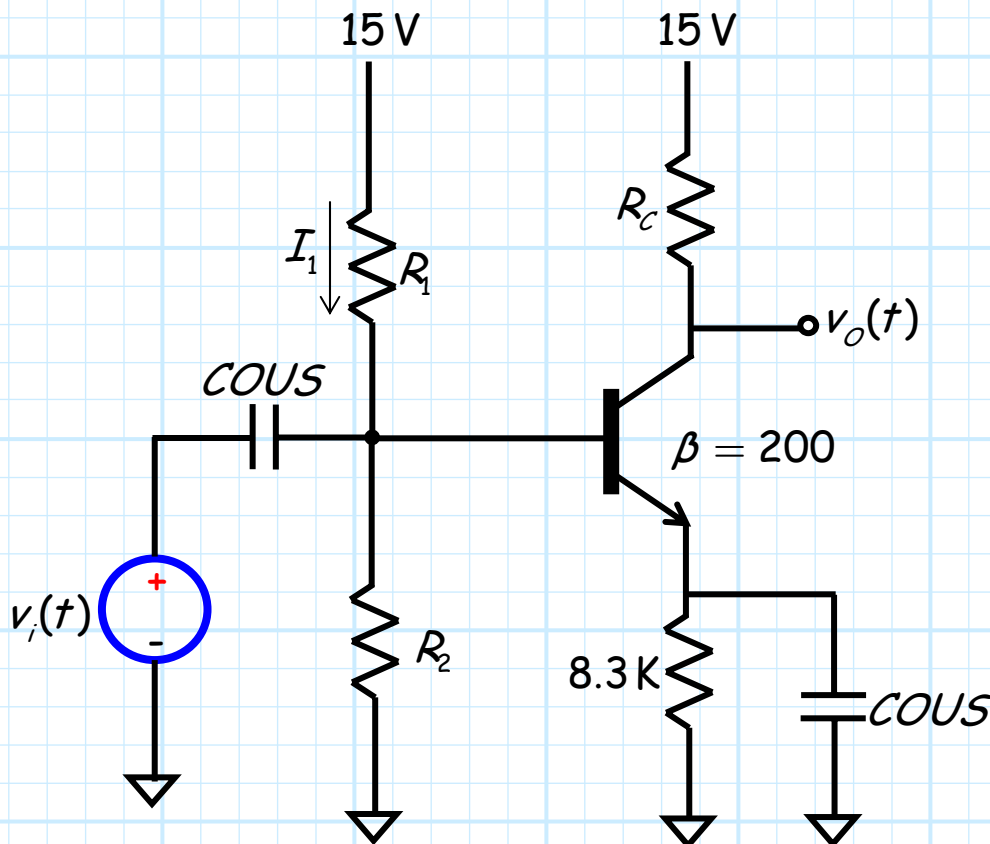
Special Problem 5.5-3

We have designed the DC bias of the amplifier below such that:

- the emitter resistor is $R_E = 8.3 \text{ K}$
- the specific **small-signal** output shown on the next page can (just barely!) exist at the amplifier output without distortion.
- the **sensitivity** of the DC bias current I_C with respect to changes in β was made as **low as possible** (i.e. I_C was made as **stable** as possible), while **still** allowing the small-signal output on the next page to be distortion free.

Determine the values R_1 , R_2 and R_C of this bias design.

Hint: This is a DC bias problem, no small-signal analysis is required.



Look on next page to see small-signal output signal!!

The **small-signal** component of the **output signal** is:

