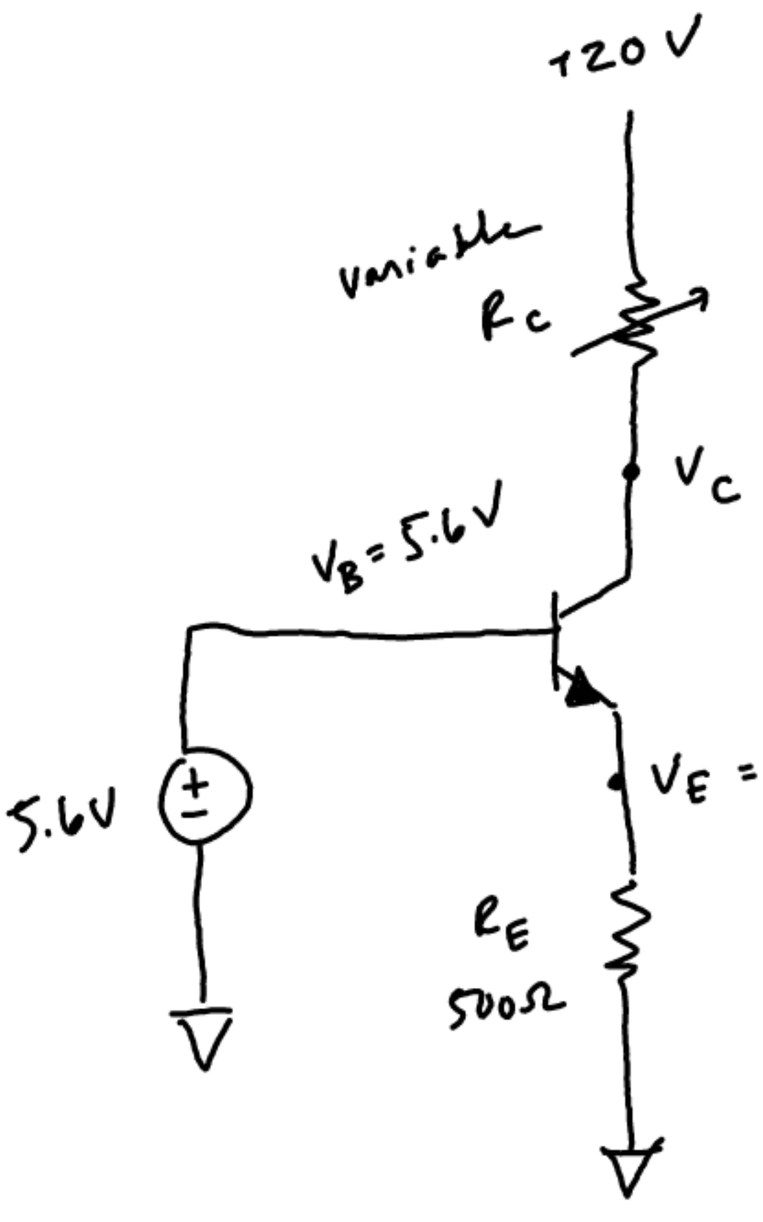
Current Source



V_C will change with R_C

$I_C \sim I_E$ set by R_E, V_E

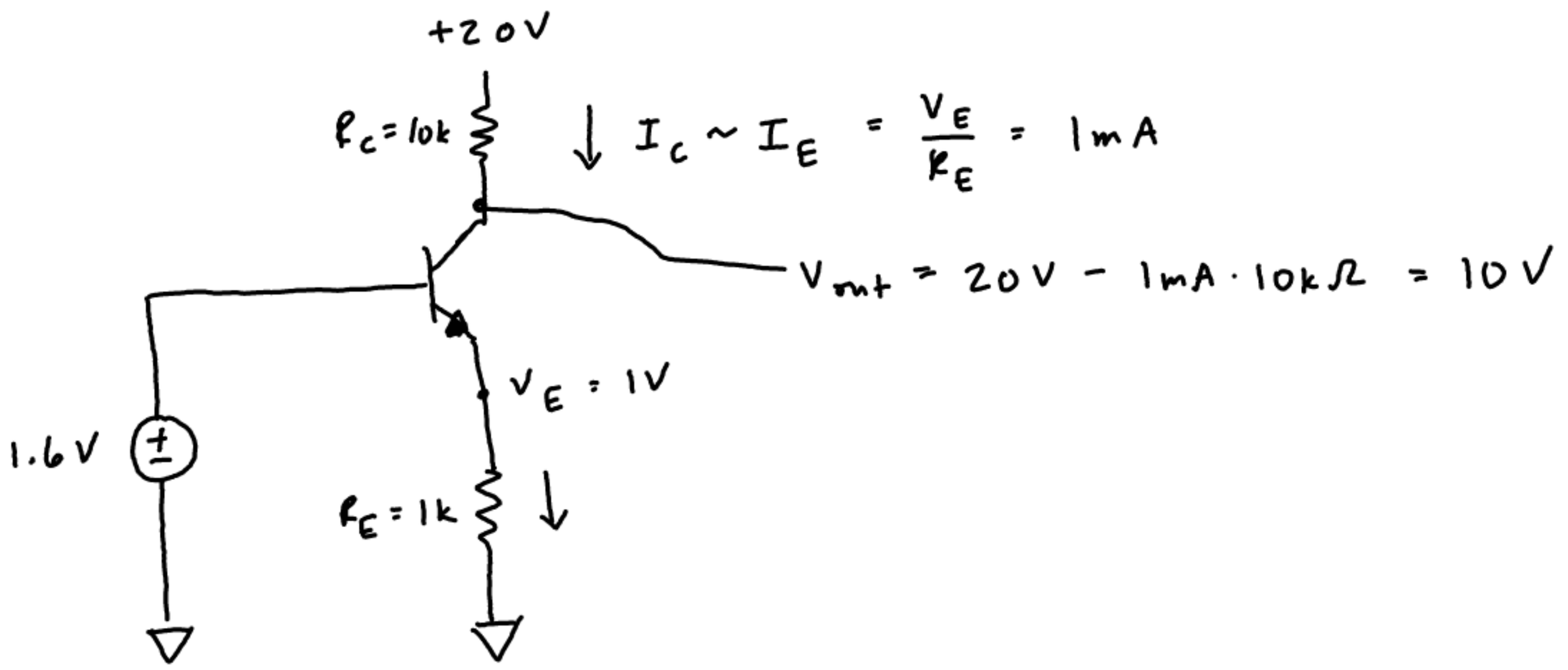
No matter what we put in for R_C, we get constant I_C

constant I_C for many different V_C, R_C

fails if R_C is too big. ← $V_{CE} \sim 0.2\,V$

transistor "saturates"

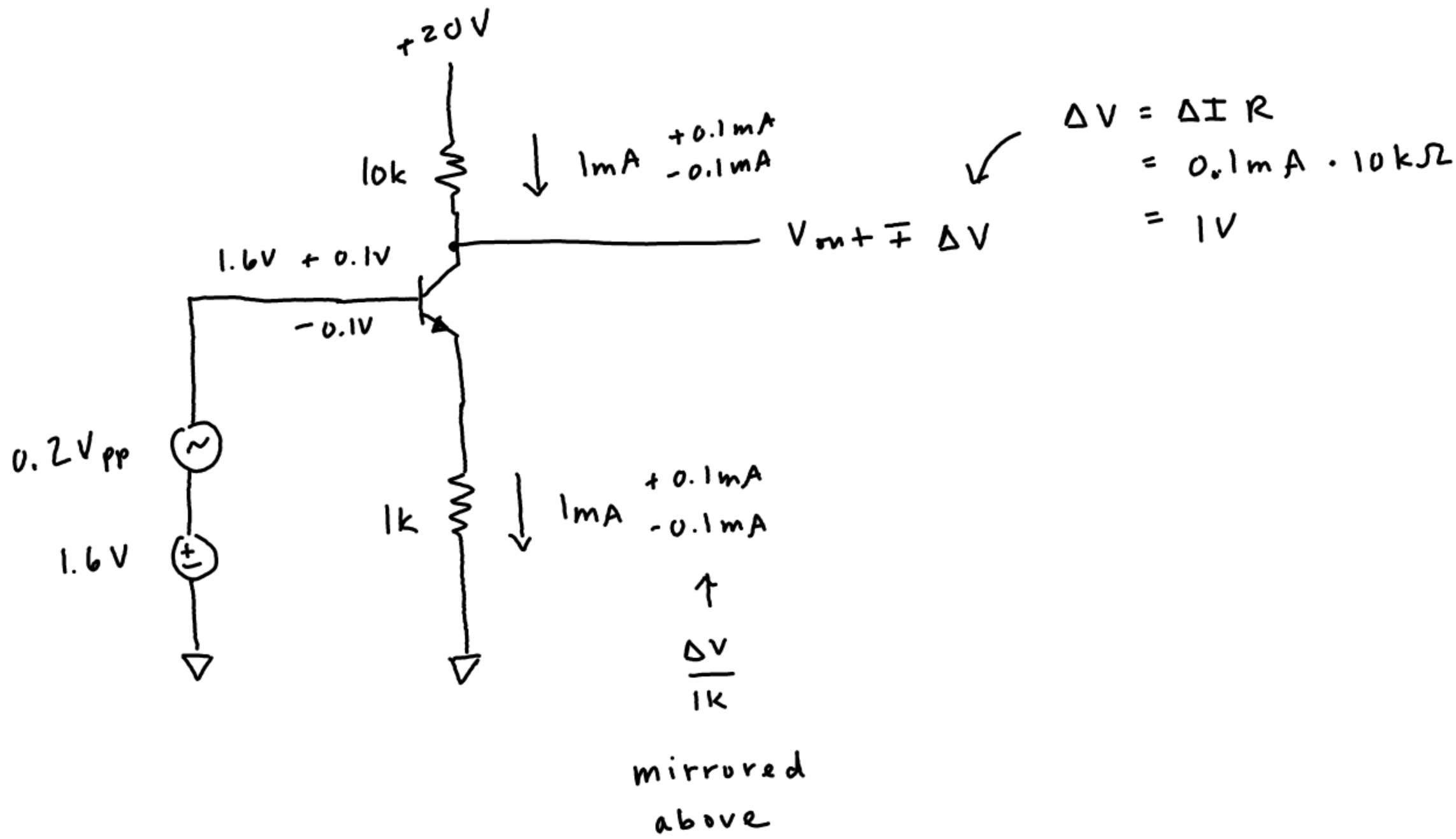
Common Emitter Amplifier (inverting)

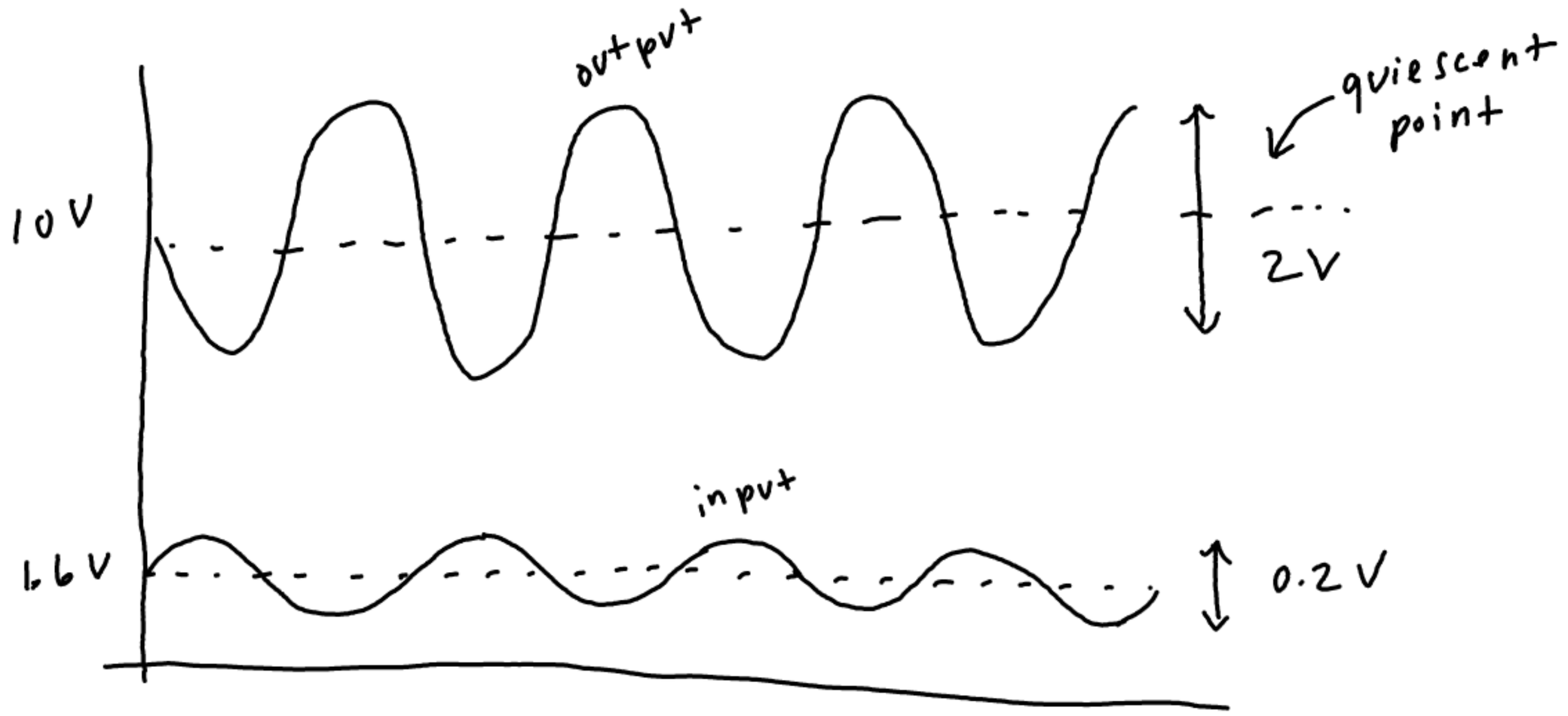


We have already seen that it's useful to bias our input to stay clear of the transistor input limits ($V_{BE} < 0.6V$).

The output current at the base input voltage is called the <u>quiescent current</u>

↳ signal is zero
still have DC bias





$$G = \frac{\Delta V_{out}}{\Delta V_{in}} = \frac{-2V}{0.2V} = -10$$

we got voltage gain!

$$= -\frac{R_C}{R_E}$$