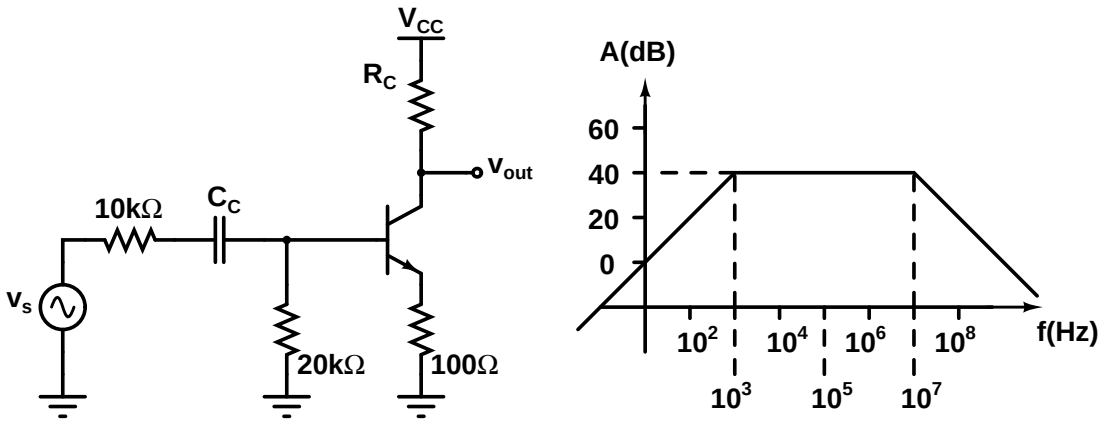

The amplifier sketched above has a single coupling capacitor C_C. The transistor's parasitic capacitance C_π is very small and can be neglected. The high-frequency pole of the circuit is determined by the transistor's capacitance C_μ.

On the right-hand side a plot displays the frequency response for the amplifier's gain, $A = v_{out}/v_s$.

Assume that the transistor's d.c. operating current is $i_C = 0.5mA$ and $\beta = 75$. Neglect r_O.

Find:

1. R_C.
2. C_C.
3. C_μ if Miller's Theorem is applied and the output capacitor neglected. Use $R_C = 2k\Omega$ instead of the value you found in part 1.
4. C_μ without applying Miller's Theorem, by replacing the transistor with its model and analyzing the resulting circuit to determine the resistance "seen" by C_μ. Use $R_C = 2k\Omega$ instead of the value you found in part 1.