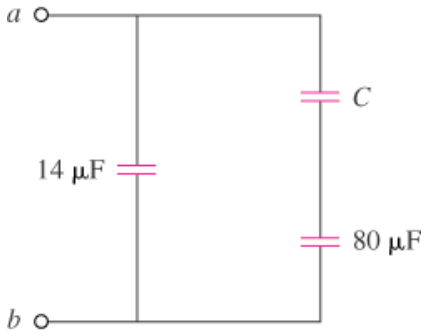
**P1** **Concept:** Equivalent capacitance
**Find:** C in the schematic if the capacitance of the whole circuit (between terminals a and b) is 30 μF:
**Hint:** First digit of answer is 2.




**P2** **Concept:** Design problem
**Find:** Using a single op amp, a capacitor, and resistor of values between 100Ω to 100 kΩ, design a circuit to implement the following equation:

$$v_0 = -50\int_0^t v_i(t)dt$$

Assume $v_0(t=0) = 0V$.

**Hint:** Variety of correct answers