8.14 In the laboratory you find an inductor of unknown inductance L and unknown internal resistance R. Using a dc ohmmeter, an ac voltmeter of high impedance, a 1-microfarad capacitor, and a 1000-Hz signal generator, determine L and R as follows: According to the ohmmeter, R is 35 ohms. You connect the capacitor in series with the inductor and the signal generator. The voltage across both is 10.1 volts. The voltage across the capacitor alone is 15.5 volts. You note also, as a check, that the voltage across the inductor alone is 25.4 volts. How large is L? Is the check consistent?