In a series *RLC*, circuit R = 30 Ω, L = 15 mH, and C = 51 μF. If the source voltage and frequency are 12 V and 60 Hz, respectively, what is the current in the circuit?

$$X_L = 2 * 3.14 * 60 * 0.015 = 5.655\Omega$$
$$X_C = \frac{1}{2 * 3.14 * 60 * 0.000051} = 5.655\Omega$$
$$Z = \sqrt{30^2 + (52 - 5.655)^2} = 55.21\Omega$$
$$I = \frac{12}{55.21} = 217mA$$