AC network, I

At high frequencies, the inductor acts like a broken wire (infinite impedance) and the capacitor acts like a piece of wire (zero impedance). At low frequencies, the opposite holds. Thus at high frequencies, the circuit acts like a 12 Ω resistor alone across the AC generator, while at low frequencies it acts like resistance R_2 alone across the AC generator. Given that the current amplitude increases by three times going from high to low frequencies, the resistor R_2 must have one-third the resistance of the 12 Ω resistor, namely 4 Ω.

AC network, II

At high frequencies, the circuit acts like R_1 and R_2 in series across the AC generator. At low frequencies, it acts like R_1 alone across the AC generator. Because the generator delivers four times more current at low frequencies than at high, $R_1 + R_2 = 4R_1$, so $R_1 = 300\ \Omega$.