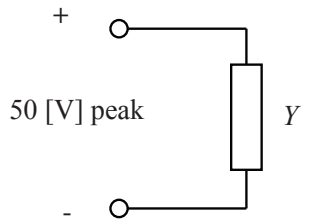
Special Problem 11.5

A 50 [V] peak sinusoidal voltage is applied to a load with admittance $Y = 20 + j10$ [mS]



a) Find the average power P delivered to the entire load

b) Consider the load to be the parallel combination of a resistor R_p and a reactance X_p. Find this resistance, and find the power delivered to it and show that it is the same as in a).

c) Now, consider the load to be a series combination of a resistor R_s and a reactance X_s. Find this resistance, and show that the power delivered to it is the same as found in a)-c).