

**King Fahd University of Petroleum & Minerals**  
Electrical Engineering Department  
EE205: Electric Circuit II (082)  
**Quiz 2 (Take Home): Balanced 3 Phase Systems 11.4-11.6**

**Serial #**

- 1 points for not  
writing your serial  
number

Name:

Sec.

Two balanced three-phase  $\Delta$ -connected loads are connected in parallel. Load 1 has an impedance per phase of  $750 + j240 \Omega/\emptyset$ ; and load 2 is  $112.32 + j95.04$  kVA (*hint: load 2 is represented by its 3-phase complex power*). The loads are fed from a distribution line with an impedance of  $R + j5 \Omega/\emptyset$ . The magnitude of the phase voltage at the load end of the line is 7.2kV. The a-phase voltage at the load is specified as the reference phasor. Assume positive sequence. The total complex power at the sending end of the line is  $683419 + j292716$  VA

Find the value of  $R$  ?

I have not given nor received any help in solving this quiz \_\_\_\_\_