Questions

1. A signal of 100 watts (50 dBm) is sent through a lossless coaxial cable to an antenna with a return loss of 10 dB. How much power is radiated by the antenna? How much power will be radiated if the return Loss is 3 dB? How much power will be radiated if the return Loss is 7 dB?
2. A λ/2 dipole, with a total loss resistance of 1 ohm, is connected to a generator whose internal impedance is 50+j30 ohms. Assuming that the peak voltage of the generator is 2V and the impedance of dipole, excluding the loss resistance is 73+j42.5 ohms, find the power;
3. Supplied by source (real)
4. Radiated by antenna
5. Dissipated by the antenna
6. The maximum radiation intensity of a 90 % efficiency antenna is 100 mW/unit solid angle. Find the directivity and gain (in dB) when;
7. input is 45 mW
8. Radiated power is 45mW.
9. What kind of materials are used for broad band absorbers? Please write the classification of absorbers based on appearance. (atleast 3 items)