**Special Problem III.E-1**

A transmitter with a 50 Ω output impedance delivers 10 Watts to a transmission line with a characteristic impedance of 50 Ohms. An antenna is located at the other end of the line, with an input impedance described by:

\[
R_r = 75 \Omega \quad R_z = 25 \Omega \quad X_A = 0 \Omega
\]

How much power is delivered to the antenna, and how much is reflected?

How much of the power delivered to the antenna is radiated?

What is the efficiency of this antenna?