PE 13.4 A certain antenna with an efficiency of 95% has maximum radiation intensity of 0.5 W/sr. Calculate its directivity when

a) The input power is 0.4 W.

(13.50) $P_{rad} = (0.95)(0.4\text{w}) = 0.38\text{w}$

(13.446) $D = \frac{4\pi U_{max}}{P_{rad}} = \frac{4\pi(0.5)}{0.38} = \underline{16.535}$

b) The radiated power is 0.3 W.

$D = \frac{4\pi U_{max}}{P_{rad}} = \frac{4\pi(0.5)}{0.3} = \underline{20.944}$