Special Problem 6.E-2

A transmitter delivers **all** of its power to an antenna with an efficiency **e=1**.

The antenna radiates this power **uniformly** throughout a **solid angle**.

This solid angle **subtends a circle** whose **radius is r = 2 m**.

The maximum **gain** of this antenna is **20 dB**.

A. Determine the **distance *d*** between the antenna and the circle.

B. The **power density** of the wave **at the circle** is **2.5 π W/m^2**; determine the **transmitted power**.

C. Determine the **intensity** of the wave propagating within the solid angle.