1. Prove invariance of radiance, $L(x \rightarrow y) = L(y \leftarrow x)$

2. Consider a square area light source with a surface area measuring 10 x 10 cm$^2$. Each point on the light source emits radiance according to the following function over its hemisphere:

   \[ L(x \rightarrow \Theta) = 1000 \cos \Theta \text{ (W/sr·m}^2) \]

   a) Compute radiosity for each point in the light source
   b) Compute the power for the entire light source.