Week 5_sconde

1)
- To fined emission of Black Body = σT^4
- Radiosity = Reflective Power + Emissive Power
- Irradiation = Incident Radiation
- Immisivity of Black Body = 1

  To calculate Emissivity = Devide the Emissive Power by $\sigma T^4 \gg$ -$E = \frac{\epsilon}{\sigma T^4}$
- Emissivity = Ratio of the Thermal Radiation from the Surface to the radiation from an Ideal Black Body at the same temperature as given y Boltzman Law.
- Intensity = To define the amount of radiation to another body.
- Deffused Surface = It has the same directional Intensity
- Diffusivity = measure of the cabality of a substance or energy o be deffused to allow something to pass by deffusion
- Absorptivity = Ratio of amount fraction of radiation absorbed by a surface. Emissivity of the Object $\epsilon(T) = a(T) Kirchhoff's\ Law$
- Reflectivity = Is the fraction reflected by the surface
- Transmisivity = Is the fraction transmited by the surface
- Emissivity can be calculated as $\epsilon = \frac{E_{real\ one}}{E_{Black\ Body\ Temp}} = \frac{E_{real\ body}}{\sigma T^4}$
- $E_{real\ body} = \epsilon * \sigma T^4$
- View Factor = Amount of Radiation emmited from A to B
  -Reflectivity affects how much Radiation is able to travel from point A to B
- $F_{12} = (Q_{Emiited\ by\ Surface\ 1} \& recieved\ by\ Surface\ 2)/Q_{Emiited\ by\ Surface\ 1}$

- $Q_{emitted\ to\ Surface\ 2} = \frac{F_{12}}{Q_{Emiited\ by\ Surface\ 1}}$

2)

$$Q_{net\ 1\ to\ 2} = \frac{A\sigma(T_1^4 - T_1^4)}{\frac{1}{\epsilon_1} + \frac{1}{\epsilon_2} - 1}$$

a) $\frac{Q_{net\ 1\ to\ 2}}{A} = \frac{5.670x10^{-8}(800^4 - 500^4)}{\frac{1}{0.2} + \frac{1}{0.7} - 1} = 3625.35\ W$

b) $\frac{Q_{net\ 1\ to\ 2}}{A} = \frac{5.670x10^{-8}(800^4 - 500^4)}{\frac{1}{0.1} + \frac{1}{0.1} - 1} = 3625.35\ W$