WeeklySubmission-4
1.

	Wood	Insulation
Outside air	0.03	0.03
Wood Bevel (13*200mm)	0.14	0.14
Plywood (13mm)	0.11	0.11
Urethane Rigid Foam (90mm)	—	0,98x90/25=3.528
Wood Stud (90mm)	0.63	—
Gypsum Board (13mm)	79	79
Inside Surface	0.12	0.12

R_{wood} = (0.03+0.14+0.11+0.63+0.079+0.12)= 1.109 m^2°C/W

$R_{insulation}$ = (0.03+0.14+0.11+3.528+0.079+0.12)= 4.007 m^2°C/W

U_{wood} =1/ R_{wood} = 1/1.109=0.902 m^2°C/W

$U_{insulation}$ = 1/ $R_{insulation}$= 1/4.007=.25 m^2°C/W

U_{total} = $0.902*0.25 + 0.25*0.75$ =0.413 W/ m^2°C

Q_{total} = Utotal*Atotal*ΔT = 0.413*125*0.8*(22-(-2))= 911.2 W

2.

Radiation doesn’t depend on substances as medium, and every object creates radiation, that is to say, putting things with heat in a vacuum room, they will eventually become cool. And radiation appears in all status of substances, solid, liquid, and air.

Thermal Radiation is energy emitted by matter as electromagnetic wave. It increases with increasing temperature. It is continuously emitted by all the things with temperature above absolute zero.

Sun is our primary light source, and it creates solar radiation, that is a form of electromagnetic radiation, half of solar radiation is visible as light.