Question 1:

- R1conv=$\frac{1}{h1*A} = \frac{1}{10*0.25} = 0.4$ C/W
- Rf=$\frac{Lf}{Kf*A} = \frac{0.03}{0.026*0.25} = 4.615$ C/W
- Rp= $\frac{L}{K.A} = \frac{0.32}{0.22*0.015} = 96.969$ C/W
- Rb=$\frac{L}{K.A} = \frac{0.32}{0.72*0.015} = 2.02$ C/W
- $\frac{1}{Rtotp} = \frac{1}{Rb} + 2 * \frac{1}{Rp} = \frac{1}{2.02} + 2 * \frac{1}{969} = 0.505$
  Rtotp=1/0.505=1.98 C/W
- $Rp = \frac{L}{K.A} = \frac{0.02}{0.22*0.25} = 0.363$ C/W
- $Ro = \frac{1}{ho.A} = \frac{1}{40*0.25} = 0.1$ C/W
- $Rtot = R1 + Rf + Rtotp + 2Rp + Ro = 7.821$ C/W
- $The\ Heat\ Transfer\ Is$:
  Q=(t1-tin)/Rtot= (20+10)/7.821=3.835 W
- If we compare this result with the previous one (Rtot=6.8811 and Q=4.41W), We notice that we doubled the thickness of the brick but the resistance of the whole wall didn't increase by much and thus the rate of heat transfer doesn't go down too much either.

Question 2:

- Rw= Routside air+Rwood bevel+Rpolywood+Rwood+Rgypsum+Rinside=
  0.03+0.14+.011+0.63+0.079+0.12=1.109 m2C/W
- Ri=.03+0.14+0.11+3.528+0.079+0.12=4.007 m2C/W