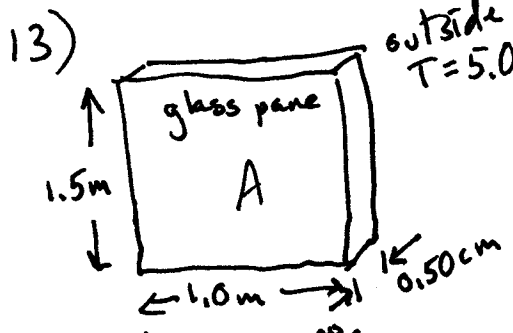
13)



Given $K = 0.80\ W/(m \cdot K)$

Rate of heat loss

$$I_{cd} = \frac{Q}{t} = \frac{\Delta T}{R} \qquad \Delta T = -15K$$

where $R = \frac{d}{KA}$

$A = 1.0m \times 1.5m = 1.5m^2$

$$R = \frac{d}{KA} = \frac{0.50 \times 10^{-2} m}{0.80\ W/(m \cdot K) \times 1.5 m^2} = 4.17 \times 10^{-3} W/K$$

$$I_{cd} = \frac{-15K}{4.17 \times 10^{-3} W/K} = -3.6 \times 10^{3} W$$

or $3.6 \times 10^3 W$ flow out of the room (D)