P # 36

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$A = 1.20\ m^2$

$L = 4.00\ cm = .04\ m$

$\Delta T = 15.0\ ^\circ C$

$H = 10.0\ J/sec$

$$H = \frac{k \cdot A \cdot (\Delta T)}{L}$$

$$(10.0\ J/sec) = \frac{k \cdot (1.20\ m^2)(15.0\ ^\circ C)}{(.04\ m)}$$

$$\boxed{k = .022\ J/s \cdot m \cdot C}$$