

Answers:

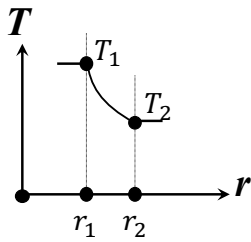
(1.1)

$$\frac{\partial T}{\partial t} = \frac{k}{\rho C_p} \frac{1}{r} \frac{\partial}{\partial r} \left(r \frac{\partial T}{\partial r} \right)$$

(1.2)

$$\frac{T - T_2}{T_1 - T_2} = \frac{\ln(r/r_2)}{\ln(r_1/r_2)}$$

(1.3)



(1.4)

$$q_r = k \frac{T_1 - T_2}{\ln(r_2/r_1)} \frac{1}{r}$$

(1.5)

$$Q_r = \frac{2\pi Lk(T_1 - T_2)}{\ln(r_2/r_1)}$$

(1.6)

$$Q_r = \frac{A_2 - A_1}{\ln(A_2/A_1)} k \frac{(T_1 - T_2)}{(r_2 - r_1)}$$