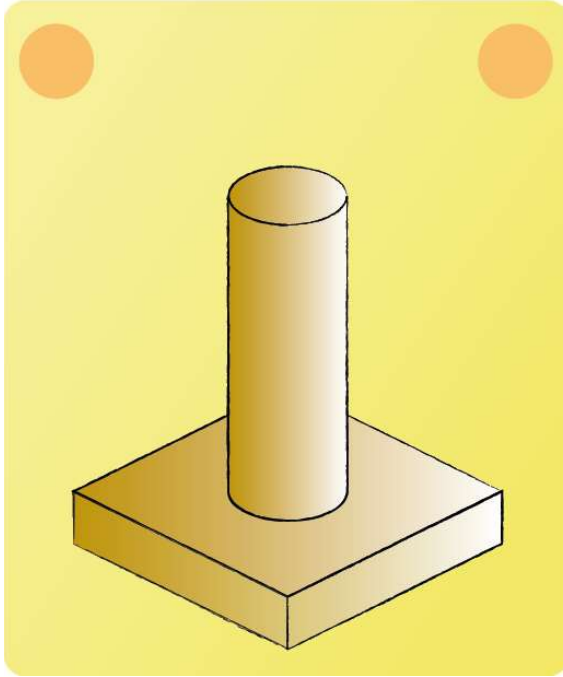


Lecture 11 - Question 3



After substitution of $\theta(x) = T(x) - T_A$ into $-\lambda \cdot A_c \cdot \frac{\partial^2 T}{\partial x^2} = \alpha \cdot U(T(x) - T_A)$, the equation becomes: $\frac{\partial^2 \theta}{\partial x^2} + \frac{\alpha \cdot U}{\lambda \cdot A_c} \cdot \theta = 0$. Which of the following options can be used to simplify the equation even further?



$$m^2 = \frac{\alpha \cdot U}{\lambda \cdot A_c}$$

Substitution leads to:

$$\frac{\partial^2 \theta}{\partial x^2} + m^2 \cdot \theta = 0$$