HOMEWORK: Extra fin problem

The fin efficiency of the conical fin shown is $\eta = 0.768$.

(a) Find the total rate of heat transfer from the fin in W.

(b) Can the fin equation (3-56 in your text) be solved to find $T=T(x)$ for this fin? Why or why not?

$T_b = 50°C$

$h = 7 \text{ W/(m}^2 \cdot \text{K)}$

$T_\infty = 20°C$

D

L

$D = 2$ cm
$L = 10$ cm

x