$m = 3.00 g = .003 kg$

$C_{Cu} = 387 \ J/kg\cdot C$

$T_1 = 25\degree C$

$h = 50 \ m$

a) $60\% \cdot PE = Q_{gain}$

$.6 \cdot m \cdot g \cdot h = m \cdot c \cdot \Delta T$

$.6 (9.8 \ m/s^2)(50 \ m) = (387 \ J/kg\cdot C)(\Delta T)$

$\Delta T = .76 \degree C$

$T_2 = T_1 + \Delta T$
$= 25\degree C + .76 \degree C$

$\boxed{T_2 = 25.8 \degree C}$