

'Warming Up A Solar Cell'

a) $5 = 20 - 225k$ (1)

$$k = \frac{1}{15} \quad (1)$$

b) $t = 8.5, T = 18.7^\circ\text{C}$ (3 s. f.) (2)

c)

$$\frac{dT}{dt} = \frac{5}{24}t - \frac{5}{2} \quad (1)$$

$$\frac{5}{2} = \frac{5}{24}t \quad (1)$$

$$t = 12\text{pm} \quad (1)$$

d) It doesn't show the rate of change of temperature slowing down in the middle of the night, which it would in real life. (1)