a) D

b) $\dot{Q} = -K \frac{dT}{dn} 4\pi n^2$ ⟺ $-\frac{\dot{Q}}{K 4\pi n^2} dn = dT$ ⟺ $\Delta T = -\int_{R_i}^{R_e} \frac{\dot{Q}}{K 4\pi n^2} = -\frac{\dot{Q}}{K 4\pi}\left(\frac{1}{R_e} - \frac{1}{R_i}\right)$ ⟺ $\dot{Q} = \frac{\Delta T (K 4\pi)}{-\frac{1}{R_e} + \frac{1}{R_i}} = 18.5W \Rightarrow B$

c) c1) $P = \sigma \cdot A_{ext} \cdot T^4 = 32W \Rightarrow D$

   c2) A

   C3) $\dot{Q}_{Conv} = h A \Delta T \Rightarrow \frac{\dot{Q} \, 0.6}{A \, \Delta T} = h \rightsquigarrow C$

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