1. $\nabla^2 I(r) = -\frac{6\pi\eta a}{k_B T}$

$$\nabla^2 I(r) = \frac{1}{r^2}\frac{d}{dr}\left(r^2\frac{dI}{dr}\right) + \cancel{\frac{1}{r^2\sin\theta}\frac{d}{d\theta}\left(\sin\theta\frac{dr}{d\theta}\right)}^{0} + \cancel{\frac{1}{r^2\sin\theta}\frac{d^2 I}{d\varphi^2}}^{0}$$

→ Ya que $I(r)$ solo depende de r, se puede eliminar lo que tenga θ y φ

$$= \frac{1}{r^2}\frac{d}{dr}\left(r^2\frac{dI}{dr}\right) = -\frac{6\pi\eta a}{k_B T}$$

$$= \frac{1}{r^2}\left(2r\frac{dI}{dr} + r^2\frac{d^2 I}{dr^2}\right) = -\frac{6\pi\eta a}{k_B T}$$

$$= \frac{d^2 I}{dr^2} + \frac{2\,dI}{r\,dr} = -\frac{6\pi\eta a}{k_B T}$$

$$= \frac{d^2 I}{dr^2} + \frac{2\,dI}{r\,dr} + \frac{6\pi\eta a}{k_B T} = 0$$

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