

$$\sum_{k=1}^{\infty} \left(\frac{\lambda}{\lambda + s} \right)^k$$

ordinary
modular
problem

$$\frac{\lambda}{\lambda + s} = \frac{\lambda}{s}$$

$$1 - \frac{\lambda}{\lambda + s}$$

$$\sum_{n=1}^{\infty} [(n+1)^n - n^n] \quad H(t) = \underline{\underline{at}}$$

$$\frac{\left(\frac{\lambda}{\lambda + s} \right)^2}{1 - \left(\frac{\lambda}{\lambda + s} \right)^2} = \frac{\lambda^2}{[(\lambda + s)^2 - \lambda^2] s}$$

$$\frac{2}{s} \sum_{n=1}^{\infty} n \left(\frac{\lambda}{\lambda + s} \right)^n = \frac{2}{s} \sum_{n=1}^{\infty} n \left(\frac{\lambda}{\lambda + s} \right)^n$$

$$\frac{1}{s} \left[\left(1 + \frac{s}{\lambda} \right)^2 - 1 \right] s$$

$$= \frac{1}{s} \left[1 + \left(1 + \frac{s}{\lambda} \right)^2 + \left(1 + \frac{s}{\lambda} \right)^{2n} \right]$$

$$\sum_{k=1}^{\infty} k \left(\frac{s}{\lambda} \right)^k$$

$$\frac{2 \left(\frac{\lambda}{\lambda + s} \right)^2 \frac{\lambda}{s}}{s \left[1 - \left(\frac{\lambda}{\lambda + s} \right)^2 \right]^2} = \frac{2 \lambda^2 - \lambda \frac{2\lambda}{s}}{s [(\lambda + s)^2 - \lambda^2]^2}$$

$$= \frac{\lambda^2}{(\lambda + s)^2 - \lambda^2} s$$

$$f''(s) = 1$$