

$$\begin{aligned}
& \lim_{n \rightarrow \infty} \left(\frac{8 \cdot (n+4)^{n+2}}{(10n^4 + 10n^3 + 2n^2 + 3n) \cdot (n+9)^{n-2}} \right) \\
& \qquad \qquad \qquad \frac{4}{5} e^{-5}
\end{aligned}
\tag{1}$$