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$$\lim_{x\to+\infty} \frac{x^2+1}{x+3} \log \frac{x^2+x+1}{x^2+2x+3} =$$

$$= \lim_{x\to+\infty} \frac{x^2+1}{x+3} \left(\log \frac{x^2+x+1}{x+2+3/x} - \log x \right) =$$

$$= \lim_{x\to+\infty} \frac{x^2+1}{x+3} \log \left(1 + \frac{1}{-\frac{x^2+2x+3}{x+2}} \right) =$$

$$= \lim_{x\to+\infty} \frac{x^2+1}{x+3} \left(-\frac{x+2}{x^2+2x+3} \right) \left(-\frac{x^2+2x+3}{x+2} \right) \log \left(1 + \frac{1}{-\frac{x^2+2x+3}{x+2}} \right) =$$

14 - Overdrive

$$\left\{ \begin{aligned} & \frac{x^2+x+1}{x^2+2x+3} - 1 + 1 = \\ & = \frac{x^2+x+1-x^2-2x-3}{x^2+2x+3} + 1 = \\ & = -\frac{2x+2}{x^2+2x+3} + 1 \end{aligned} \right\}$$

$$= \lim_{x \to +\infty} \frac{-x^3+\dots}{x^3+\dots} \cdot \lim_{y \to \infty} y \log\left(1+\frac{1}{y}\right) =$$

$$= -1$$

$$) =$$