

$$\lim_{x \rightarrow -1} \frac{x+1}{\sin(x+1)} \cdot \frac{x+3}{x+3} \cdot \log \left[ 1 + \left( \frac{x^2+2x+3}{x+3} - 1 \right) \right]$$

$$\lim_{x \rightarrow -1} e$$

$$1 \cdot \frac{1}{2} \cdot 1^{-\frac{1}{2}} = e = \frac{1}{\sqrt{e}}$$

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$$\lim_{x \rightarrow 2} \left( \frac{x^3+x+1}{x^2+7x-7} \right)^{\frac{11e^2}{e^x-e^2}} =$$

$$\frac{11e^2}{e^x-e^2} \log \frac{x^3+x+1}{x^2+7x-7}$$

$$\lim_{x \rightarrow 2} \frac{11e^2}{e^x-e^2} \log \left[ 1 + \left( \frac{x^3+x+1}{x^2+7x-7} - 1 \right) \right] =$$

$$= \lim_{x \rightarrow 2} e \cdot \frac{11e^2}{e^x-e^2} \cdot \left( \frac{x^3+x+1}{x^2+7x-7} - 1 \right) \log \left[ 1 + \left( \frac{x^3+x+1}{x^2+7x-7} - 1 \right) \right]$$

$$= \lim_{x \rightarrow 2} e$$

$$\frac{11e^2}{e^x-e^2} \cdot \frac{x^3-x^2-6x+8}{x^2+7x-7} \cdot \log \left[ 1 + \left( \frac{x^3+x+1}{x^2+7x-7} - 1 \right) \right]$$

$$= \lim_{x \rightarrow 2} e$$

$$\frac{11(x-2)}{x^2-1} \cdot \frac{x^2+x-4}{x^2+7x-7} \cdot \log \left[ 1 + \left( \frac{x^3+x+1}{x^2+7x-7} - 1 \right) \right]$$

$$= \lim_{x \rightarrow 2} e$$

$$\left. \begin{aligned} & \frac{x^3-x^2-6x+8}{x^3-2x^2} \\ & \parallel \frac{x^2-6x+8}{x^2-2x} \\ & \parallel \frac{-4x+8}{-4x+8} \\ & \parallel \end{aligned} \right\}$$

$$11 \cdot 1 \cdot \frac{2}{11} \cdot 1 = e$$

$$= e$$