Ex 1.1.5

g) $\lim_{x \to -\infty} (x^2+x)e^x = \text{“}\infty \cdot 0\text{”} = \lim_{x \to -\infty} \frac{x^2+x}{e^{-x}} \overset{\text{“}\frac{\infty}{\infty}\text{”}}{\underset{\text{B.H.}}{=}} \lim_{x \to -\infty} \frac{2x+1}{-e^{-x}}$

$$\overset{\text{“}\frac{\infty}{\infty}\text{”}}{\underset{\text{B.H.}}{=}} \lim_{x \to -\infty} \frac{2}{e^{-x}} = \frac{2}{\infty} = 0$$

d) $\lim_{x \to 0} xe^{1/x} = \text{“}0 \cdot e^{\frac{1}{0^+}}\text{”} = \text{“}0 \cdot \infty\text{”} = \lim_{x \to 0^+} \frac{e^{1/x}}{1/x}$

$$\overset{\text{“}\frac{\infty}{\infty}\text{”}}{\underset{\text{B.H.}}{=}} \lim_{x \to 0^+} \frac{-\frac{1}{x^2}e^{1/x}}{-\frac{1}{x^2}} = \lim_{x \to 0^+} e^{1/x} = e^{+\infty} = +\infty$$