

Def 1 (b) p A.14

$$f_2(x) = \left(\frac{x+2}{x+1}\right)^x$$

$$\lim_{x \rightarrow +\infty} \left(\frac{x+2}{x+1}\right)^x \quad 1^{+\infty} = \text{ONB}$$

$$x \ln\left(\frac{x+2}{x+1}\right)$$

$$= \lim_{x \rightarrow +\infty} e$$

$$= e \lim_{x \rightarrow +\infty} x \ln\left(\frac{x+2}{x+1}\right) \quad +\infty \cdot 0 = \text{ONB}$$

$$= e \lim_{x \rightarrow +\infty} \frac{\ln\left(\frac{x+2}{x+1}\right)}{\frac{1}{x}} \quad \frac{0}{0} \rightarrow (H)$$

$$H = \lim_{x \rightarrow +\infty} \frac{\frac{x+1}{x+2} \cdot \frac{(x+1)^2 - (x+2) \cdot 1}{(x+1)^2}}{-\frac{1}{x^2}}$$

$$= e \lim_{x \rightarrow +\infty} \frac{+4 \cdot x^2}{(x+2)(x+1)}$$

$$= e \lim_{x \rightarrow +\infty} \frac{x^2}{x^2} = e^1 = e$$

op  $+\infty$  HA:  $y = e$