

41,51,35

$$\textcircled{35} \lim_{x \rightarrow \infty} (e^{-2x} \cos x)$$

$$\therefore -1 \leq \cos x \leq 1$$

$$\therefore -e^{-2x} \leq e^{-2x} \cos x \leq e^{-2x}$$

$$-\frac{1}{e^{2x}} \leq \frac{1}{e^{2x}} \cos x \leq \frac{1}{e^{2x}}$$

$$\lim_{x \rightarrow \infty} \left( -\frac{1}{e^{2x}} \right) = -0 = 0$$

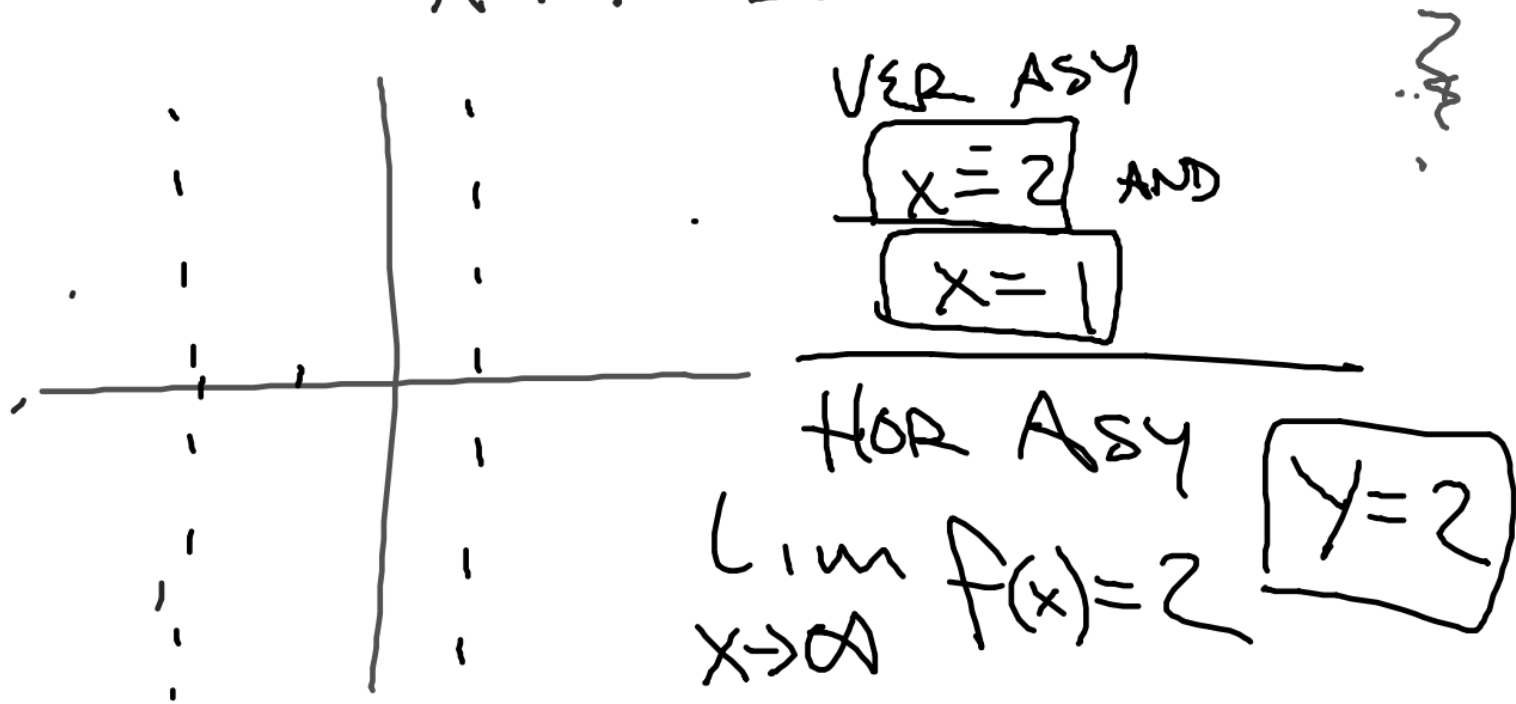
$$\lim_{x \rightarrow \infty} \frac{1}{e^{2x}} = 0$$

BY THE SQUEEZE THEOREM

$$\lim_{x \rightarrow \infty} e^{-2x} \cos x = 0$$

41

$$y = \frac{2x^2 + x - 1}{x^2 + x - 2} = \frac{(2x-1)(x+1)}{(x-1)(x+2)}$$



51

$$y = (3-x)(1+x)^2(1-x)^4$$

$$y(0) = 3(1)(1) = 3$$

$$0 = (3-x)(1+x)^2(1-x)^4$$

