

$$e) \lim_{x \rightarrow -\infty} \frac{x^2 - 3}{x^3 + 9} = y = 0$$

$$f) \lim_{x \rightarrow 0} \tan x = 0$$

$$g) \lim_{x \rightarrow 3} \frac{3x + 9}{x^2 - 9} = \lim_{x \rightarrow 3} \frac{3(x+3)}{(x+3)(x-3)}$$

$$\frac{\text{real \#}}{0} = \frac{3}{0} = \text{DNE} = \frac{3001}{\infty} = \frac{1}{\infty} = 0$$

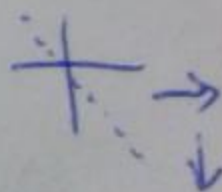
So try $f(3.001)$ and $f(2.999)$

$$i) \lim_{x \rightarrow 4} \frac{x^3 - 4x^2 + 6x - 24}{x^2 + 3x - 28} =$$

$$\lim_{x \rightarrow 4} \frac{(x^2 + 6)(x - 4)}{(x + 7)(x + 4)} = \frac{22}{11} = 2$$

$$h) \lim_{x \rightarrow \infty} \frac{-10x^4 + 20x^3}{15x^3} =$$

SA with - slope



$-\infty$

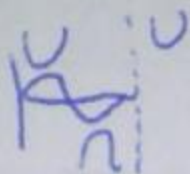
$$j) \lim_{x \rightarrow 1^+} \frac{2x^2 - x - 3}{2x^2 - 5x + 3} = \lim_{x \rightarrow 1^+} \frac{(2x-3)(x+1)}{(2x-3)(x-1)}$$

since real # even after simplify

$$\text{try } f(1.001) = \frac{2.001}{1/1000} = 2001 \rightarrow \infty$$

$$k) \lim_{x \rightarrow -\infty} 4^{-x} + 2 = 4^{\infty} + 2 = \infty + 2 = \infty$$

$$l) \lim_{x \rightarrow 2\pi} \csc x =$$



DNE