

QUIZ (1) FORM A

Name:

KEY

ID #

KEY

Sec # (13) (28)

PLEASE give complete, neat answers and show ALL your work

1) Find $\lim_{t \rightarrow -\infty} \frac{5-2t^3}{t^2+1}$.

(HW # 26, page 137)

$$\deg [q(x)] = 2$$

$$\begin{aligned} \lim_{t \rightarrow -\infty} \frac{5-2t^3}{t^2+1} &= \lim_{t \rightarrow -\infty} \frac{\frac{5}{t^2} - \frac{2t^3}{t^2}}{\frac{t^2}{t^2} + \frac{1}{t^2}} = \lim_{t \rightarrow -\infty} \frac{\frac{5}{t^2} - 2t}{1 + \frac{1}{t^2}} \\ &= \frac{0 - (-\infty)}{1 + 0} = +\infty \end{aligned}$$

2) Find $\lim_{x \rightarrow 2^+} \frac{x}{x^2-4}$.

(HW # 18, page 130)

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

$$\text{choose } x = 2.01 \Rightarrow \frac{x}{(x-2)(x+2)} = \frac{2.01}{(0.01)(4.01)} = \text{positive}$$

$$\text{Hence } \lim_{x \rightarrow 2^+} \frac{x}{x^2-4} = +\infty$$

GOOD LUCK 😊