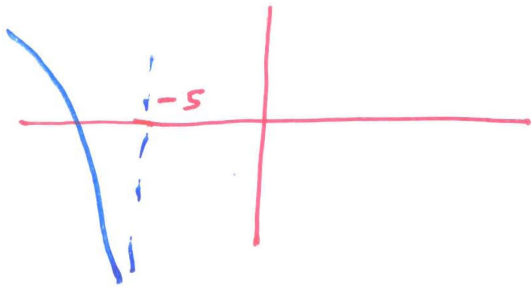


Name:-

ID:-

Find 1)  $\lim_{x \rightarrow -5^-} \ln(x^2 - 25)$  if exist, what is  $x = -5$  represent



$$x \rightarrow -5^- \quad x^2 - 25 \rightarrow 0^+$$

$$\ln(x^2 - 25) \rightarrow -\infty$$

③

$$\lim_{x \rightarrow -5^-} (x^2 - 25) = -\infty$$

$x = -5$  is Vertical Asymptote ①

2)  $\lim_{x \rightarrow 3^-} \frac{|x^2 - 7x + 12|}{x - 3}$

$$\lim_{x \rightarrow 3^-} \frac{|x^2 - 7x + 12|}{x - 3} = \lim_{x \rightarrow 3^-} \frac{|x - 3| |x - 4|}{x - 3}$$

$$\lim_{x \rightarrow 3^-} \frac{\ominus(x-3) [\ominus(x-4)]}{x-3} = \lim_{x \rightarrow 3^-} x - 4 = -1$$

3)  $\lim_{x \rightarrow 0^+} [1 - \sin x]$  where  $[ ]$  is the greatest integer function.

$$\lim_{x \rightarrow 0^+} [1 - \sin x] = 0$$

when  $x \rightarrow 0^+$   $\sin x \rightarrow 0^+$

$$1 - 0^+ < 0$$

$$\lfloor 1 - 0^+ \rfloor = 0$$