

3) (الف) $\lim_{x \rightarrow 1} \frac{x-2}{x^2-4x+5} \rightarrow \frac{1}{5-4+5} = \frac{1}{-4}$ (ب) $\lim_{x \rightarrow 1} \frac{x-2}{x^2-4x+5} = \frac{1}{-4}$ (ج) $\lim_{x \rightarrow 1} \frac{x-2}{x^2-4x+5} = \frac{1}{-4}$

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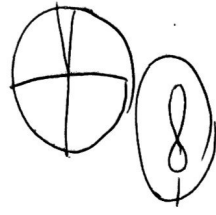
cosine



1) $\lim_{x \rightarrow \frac{\pi}{2}} \sqrt{\cos x}$ 0+ تعریف

ب) $\lim_{x \rightarrow 0} \sqrt{x-1}$ 0- تعریف 0+ تعریف

4) $\lim_{x \rightarrow 0^+} (-1)^{\frac{1}{x^3 - x^2}}$ [sin x]

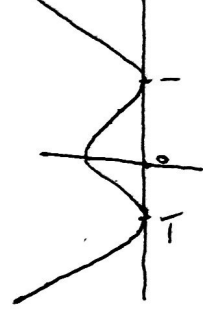


$\Rightarrow \frac{1}{x^3 - x^2} = \frac{1}{0^-} = -\infty$

* هر چه توان x نزدیکتر به 0 عددی کوچکتر است

ب) $\lim_{x \rightarrow 1} \frac{x^2 - [x^2]}{x - [x]}$ متق 2x جوابی 2

10) $y = 2x^3 - 12x^2 + 12x - 1$ متق 12x^2 - 12x 2x^2(12 - x)



ب) $y = x^3 - 12x^2 + 12x - 1$ 2x^2(12 - x) -1 + - +

سوال ۱۰

۱) $\lim_{n \rightarrow \infty} \frac{r_n + \delta}{n+1} \xrightarrow{n \rightarrow r} \frac{1}{r} = \frac{1}{r}$

۲) $\lim_{n \rightarrow \infty} \frac{r_n + \delta}{n+1} \xrightarrow{n \rightarrow r^-} \frac{1}{r} = \frac{1}{r}$

۳) $\lim_{n \rightarrow \infty} \frac{r_n + \delta}{n+1} \xrightarrow{n \rightarrow r^+} \frac{1}{r} = \frac{1}{r}$

۴) $\lim_{n \rightarrow \infty} \frac{r_n + \delta}{n+1} = \frac{1}{r} = \frac{1}{r}$

۱) $\lim_{n \rightarrow \infty} \varepsilon [r] - r \xrightarrow{n \rightarrow r^-} (\varepsilon r) - r = 0$

۲) $\lim_{n \rightarrow \infty} \varepsilon [r] - r \xrightarrow{n \rightarrow r^-} [r - r] = 0$

۳) $\lim_{n \rightarrow \infty} \varepsilon [r] - r \xrightarrow{n \rightarrow r^-} [r - r] = 0$

۴) $\lim_{n \rightarrow \infty} \varepsilon [r] - r \xrightarrow{n \rightarrow r^+} [r - r] = 0$

۱) $\lim_{n \rightarrow \infty} \frac{r [r] + 1}{r} \xrightarrow{n \rightarrow r^-} \frac{r [r] + 1}{r} = \frac{r}{r} = 1$

۲) $\lim_{n \rightarrow \infty} \frac{r [r] + 1}{r} \xrightarrow{n \rightarrow r^-} \frac{r [r] + 1}{r} = \frac{r}{r} = 1$

۳) $\lim_{n \rightarrow \infty} \frac{r [r] + 1}{r} \xrightarrow{n \rightarrow r^+} \frac{r [r] + 1}{r} = \frac{r}{r} = 1$

۴) $\lim_{n \rightarrow \infty} \frac{r [r] + 1}{r} = \frac{r}{r} = 1$