

الف) $\lim_{x \rightarrow y^+} (x - y)$

$x \rightarrow y^+$
 $x - y = 0$

ب) $\lim_{x \rightarrow y^-} (x - y)$

$x \rightarrow y^-$
 $x - y = 0$

①

الف) $\lim_{x \rightarrow y} [x] - y$

$x \rightarrow y^+$
 $[x] - y = 0$

ب) $\lim_{x \rightarrow y} [x] - y$

$x \rightarrow y^-$
 $[x] - y = 1$

الف) $\lim_{x \rightarrow y} [x - y]$

$x \rightarrow y^+ = y_1$

ب) $\lim_{x \rightarrow y} [x - y]$

$x \rightarrow y^- = y_1 - 1$

②

$\lim_{x \rightarrow y} [x - y] = 0$

$\lim_{x \rightarrow y} [x - y] = 0$

الف) $\lim_{x \rightarrow y^+} [x - y]$

$[x - y] = 0$

ب) $\lim_{x \rightarrow y^-} [x - y]$

$[x - y] = 0$

③

الف) $\lim_{x \rightarrow y} \frac{x - y}{x - y}$

$x \rightarrow y^+$
 $\frac{x - y}{x - y} = 1$

ب) $\lim_{x \rightarrow y} \frac{x - y}{(x - y)^2}$

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

④

$x \rightarrow y^+$
 $\frac{x - y}{x - y} = 1$

$\frac{0}{0^+} = +\infty$

$\frac{0}{0^-} = -\infty$

$x \rightarrow y^-$
 $\frac{0}{0^-} = +\infty$

$\frac{0}{0^+} = +\infty$

الف) $\lim_{x \rightarrow y} \sqrt{x - y}$

$x \rightarrow y^+$

$\frac{0}{0^+} = +\infty$

$\frac{0}{0^-} = 0$

⑤

ب) $\lim_{x \rightarrow y} \frac{x - y}{\sqrt{x^2 - x + y}}$

$x \rightarrow y^+$
 $\frac{0}{\sqrt{(x-1)(x-y)}}$

$\frac{0}{0^+} = +\infty$

$\frac{0}{0^-} = 0$

نوعی است
 یا نوعی است

11) $\lim_{x \rightarrow y} \frac{x^y - y^x}{x^y - y^x + y^x}$

$x^y - y^x$
 $x - y^x$

$\lim_{x \rightarrow y} \frac{x^y - y^x}{(x-y)(y-x)}$

$\lim_{x \rightarrow y} \frac{x^y - y^x}{(x-y)(y-x)} = -0$

12) $\lim_{x \rightarrow y} \frac{x^y - y^x}{x - y^x}$

$x - y^x$
 $x - y^x$

$\lim_{x \rightarrow y} \frac{x^y - y^x}{x - y^x} = \frac{0}{0} = -4$

شماره

9) $\lim_{x \rightarrow y} [x^y - y^x]$

$x - y^x$

$-x = 1x$

$\lim_{x \rightarrow y} [x^y - y^x] = -x$

$\lim_{x \rightarrow y} [y^x - x^y] = -x$

10) $\lim_{x \rightarrow y} [x^y - y^x]$

$x - y^x$

= 1x

$\lim_{x \rightarrow y} [x^y - y^x] = +x$

$\lim_{x \rightarrow y} [y^x - x^y] = +x$

15) $\lim_{x \rightarrow y} \frac{x^y - y^x}{x - y^x}$

$x^y - y^x$
 $x - y^x$

شماره

$\lim_{x \rightarrow y} \frac{x^y - y^x}{x - y^x} = \frac{1}{x-1} = \frac{1}{1} = 1$

$\lim_{x \rightarrow y} \frac{x^y - y^x - 1}{(x-1)(x-y)} = -1$

16) $\lim_{x \rightarrow y} \frac{x - [x^y]}{x^y - 1}$

$x - y^x$
 $x^y - 1$

$\lim_{x \rightarrow y} \frac{x - [x^y]}{x^y - 1} = \frac{1}{(x-1)(x+1)} = \frac{1}{1}$

$\lim_{x \rightarrow y} \frac{x - 0}{(x-1)(x+1)} = 0$

17) (الف)

$\lim_{x \rightarrow y} [x^y] + [-y^x]$

$x^y \rightarrow y + -y = +y$

$y^x \rightarrow y + -y = +y$

$x^y - y^x = 0$

18) $\lim_{x \rightarrow y} [-x^y] + [y^x]$

$x - y^x$

$-x^y \rightarrow -y^y \rightarrow y^y + -y^y = 0$

$-y^x \rightarrow -y^y \rightarrow y^y + -y^y = 0$

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