BAZI ÖZEL LİMİTLER

$$\lim_{x\to\infty}\left(1+\frac{1}{x}\right)^x = e$$

$$\lim_{x\to 0}\left(1+x\right)^{1/x} = e$$

$$\lim_{x\to 0}\ln\left(1+x\right)^{1/x} = 1$$

$$\lim_{x\to +\infty}\log_a\left(1+\frac{1}{x}\right)^x = \log_a e$$

$$\lim_{x\to +\infty}\ln\left(1+\frac{1}{x}\right)^x = 1$$

$$\lim_{x\to 0}\frac{a^x-1}{x} = \ln a$$

$$\lim_{x\to 0}\frac{e^x-1}{x} = 1$$

$$\lim_{x\to 0}\frac{\sin x}{x} = 1$$

$$\lim_{x\to 0}\frac{\ln(1\pm x)}{x} = \pm 1$$

$$\lim_{x\to 0}\frac{1-\cos x}{x^2} = \frac{1}{2}$$

$$\lim_{x\to \pm\infty}\left(1+\frac{\alpha}{x}\right)^x = e^\alpha$$

$$\lim_{x\to 0}(1+\alpha x)^{1/x} = e^\alpha$$

$$\lim_{x\to 0}\frac{(1+x)^\alpha-1}{x} = \alpha$$

$$\lim_{x\to +\infty}\left(1+\frac{1}{x}\right)^x = e$$

$$\lim_{x\to 0}\left(1+x\right)^{1/x} = e$$

$$\lim_{x\to 0}\ln\left(1+x\right)^{1/x} = 1$$

$$\lim_{x\to +\infty}\log_a\left(1+\frac{1}{x}\right)^x = \log_a e$$

$$\lim_{x\to +\infty}\ln\left(1+\frac{1}{x}\right)^x = 1$$

$$\lim_{x\to 0}\frac{a^x-1}{x} = \ln a$$

$$\lim_{x\to 0}\frac{e^x-1}{x} = 1$$

$$\lim_{x\to +\infty}\frac{a^x-1}{x} = +\infty \quad (a>1)$$

$$\lim_{x\to +\infty}\frac{a^x-1}{x} = 0 \quad (0<a<1)$$

$$\lim_{x\to -\infty}\frac{a^x-1}{x} = 0 \quad (a>1)$$

$$\lim_{x\to -\infty}\frac{a^x-1}{x} = -\infty \quad (0<a<1)$$

$$\lim_{x\to 0}\frac{\sin x}{x} = 1$$

$$\lim_{x\to 0}\frac{\ln(1\pm x)}{x} = \pm 1$$

$$\lim_{x\to 0}\frac{1-\cos x}{x^2} = \frac{1}{2}$$

$$\lim_{x\to \pm\infty}\left(1+\frac{\alpha}{x}\right)^x = e^\alpha$$

$$\lim_{x\to 0}(1+\alpha x)^{1/x} = e^\alpha$$

$$\lim_{x\to 0}\frac{(1+x)^\alpha-1}{x} = \alpha$$