Några gränsvärden

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

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

$$\lim_{x\to 0^+} x^a \ln x = 0 \quad (a > 0)$$

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

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

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

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

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

$$\lim_{x\to 0} (1 + ax)^{\frac{1}{x}} = e^a$$

$$\lim_{x\to\infty} a^{\frac{1}{x}} = 1$$

$$\lim_{x\to\infty} x^{\frac{1}{x}} = 1$$

$$\lim_{x\to\infty} e^x = \infty$$

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

$$\lim_{x\to\infty} \ln x = \infty$$

$$\lim_{x\to 0^+} \ln x = -\infty$$

$$\lim_{x\to\infty} \arctan x = \frac{\pi}{2}$$

$$\lim_{x\to-\infty} \arctan x = -\frac{\pi}{2}$$