

LIMITS REVIEW

CAS - Computer Algebra System

Solve $\ln x + \ln(x+3) = 5$

$$e^{\ln(x^2 + 3x)} = e^5$$

$$x^2 + 3x = e^5$$

$$x^2 + 3x - e^5 = 0$$

6/ $\lim_{x \rightarrow -\infty} \frac{\sqrt{x^2 + 13}}{8 - 2x}$

Limits

Find y-coord!

$\lim_{x \rightarrow \pm\infty}$ highest powers / $\sqrt{\text{even-even-odd}}$

$$14 \quad \lim_{x \rightarrow \infty} \sin\left(\frac{4\pi x - 5}{1 + 3x}\right)$$

$$= \sin \lim_{x \rightarrow \infty} \left(\frac{4\pi x - 5}{1 + 3x}\right)$$



$$22 \quad \lim_{x \rightarrow \pi^+}$$



$$\lim_{x \rightarrow 0} \frac{\sin nx}{nx} = 1$$

$$\lim_{x \rightarrow 0} \frac{1 - \cos(nx)}{nx} = 0$$

$$\lim_{x \rightarrow +\infty} e^x = +\infty$$

$$\lim_{x \rightarrow +\infty} \ln x = +\infty$$

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

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