

Limits with Composition of Functions

$$1. \lim_{x \rightarrow 2} \frac{|x^2 - 4|}{x^2 - 4} =$$

$$10. \lim_{x \rightarrow \frac{\pi}{2}} 3^{\sin(x)} =$$

$$2. \lim_{x \rightarrow 1} \frac{\sin(\ln x)}{\ln x} =$$

$$11. \lim_{x \rightarrow 0} \ln|x| =$$

$$3. \lim_{x \rightarrow \infty} e^{\left(\frac{1}{x}\right)} =$$

$$12. \lim_{x \rightarrow \pi} \tan^{-1}(\cos x) =$$

$$4. \lim_{x \rightarrow 0^+} \ln\left(\frac{1}{x}\right) =$$

$$5. \lim_{x \rightarrow 0^-} \sin\left|\frac{1}{x}\right| =$$

$$6. \lim_{x \rightarrow \infty} x \sin\left(\frac{1}{x}\right) =$$

$$7. \lim_{x \rightarrow 0} = \frac{(\cos x)(\sin(\tan x))}{\sin x}$$

$$8. \lim_{x \rightarrow -\infty} \cos\left(2^{\frac{1}{x}}\right) =$$

$$9. \lim_{x \rightarrow 0} \tan^{-1}(e^x) =$$