

Problem 1

$$\text{Find } \lim_{x \rightarrow -2} \frac{x^2 - 4}{|x| - 2}$$

Problem 2

$$\text{Find } \lim_{x \rightarrow 1} \frac{x^3 - 1}{x - 1}$$

Problem 3

$$\text{Find } \lim_{x \rightarrow 0} |x| \cos\left(\frac{1}{x}\right) \text{ by using the sandwich theorem.}$$

Problem 4

$$\text{Find } \lim_{x \rightarrow 1} \frac{\sqrt{x^2 + 3} - 2}{\sqrt{x^2 + 8} - 3}$$

Problem 5

On a computer or graphing calculator, graph $\frac{\sin(x)}{x}$. Draw this graph below and use it to determine

$$\lim_{x \rightarrow 0} \frac{\sin(x)}{x}.$$