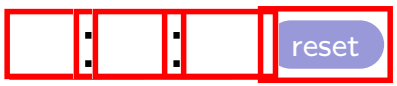
Bellwork 9/12

Evaluate without a calculator:

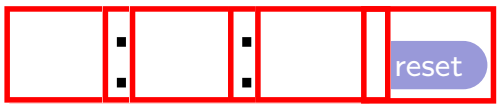
1. $\lim_{x \to 3^-} \left(\frac{x}{x+3} \right)$ and $\lim_{x \to 3^+} \left(\frac{x}{x+3} \right)$
2. $\lim_{x \to \pi^-} \left[\frac{\cos(x)}{\sin(x)} \right]$ and $\lim_{x \to \pi^+} \left[\frac{\cos(x)}{\sin(x)} \right]$



Bellwork 9/12 - Solutions

Exercise 1

$$\lim_{x \to 2} \left(\frac{x+3}{x^2+x-6} \right)$$



Exercise 1 - Solution

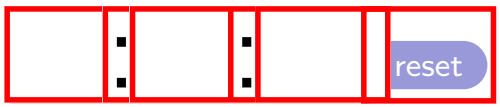
$$\lim_{x \to 2} \left(\frac{x+3}{x^2+x-6} \right) \quad \boxed{\text{DNE}}$$

$$\lim_{x \to 2^-} \left(\frac{x+3}{x^2+x-6} \right) = -\infty \qquad \lim_{x \to 2^+} \left(\frac{x+3}{x^2+x-6} \right) = \infty$$

reset

Exercise 2

$$\lim_{x \to 2} \left(\frac{x+3}{x^2+x-6} \right)$$



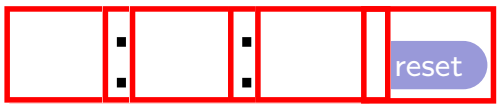
Exercise 3

$$\lim_{x \to 2} \left(\frac{x+3}{x^2+x-6} \right)$$

reset

Exercise 4

$$\lim_{x \to 2} \left(\frac{x+3}{x^2+x-6} \right)$$



Exercise 5

$$\lim_{x \to 2} \left(\frac{x+3}{x^2+x-6} \right)$$