



Ejercicios Angelica Amador (Cálculo de Thomas):

Find the limit or explain why it does not exist.

$$\begin{aligned} 15. \lim_{x \rightarrow 0} \left(\frac{1}{2+x} - \frac{1}{2} \right) &= \lim_{x \rightarrow 0} \frac{\frac{2-(2+x)}{2(2+x)}}{x} \\ &= \lim_{x \rightarrow 0} \frac{\frac{2-2-x}{2(2-x)}}{x} \\ &= \lim_{x \rightarrow 0} \frac{\frac{-x}{2(2+x)}}{x} \\ &= \lim_{x \rightarrow 0} -\frac{1}{2(2+x)} \\ &= \lim_{x \rightarrow 0} -\frac{1}{4+2x} \\ &= -\frac{1}{4+2(0)} \\ &= -\frac{1}{4} \end{aligned}$$



$$\begin{aligned} 16. \quad \lim_{x \rightarrow 0} \frac{(2+x)^3 - 8}{x} &= \lim_{x \rightarrow 0} \frac{8 + 12x + 6x^2 + x^3 - 8}{x} \\ &= \lim_{x \rightarrow 0} \frac{12x + 6x^2 + x^3}{x} \\ &= \lim_{x \rightarrow 0} \frac{x(12 + 6x + x^2)}{x} \\ &= \lim_{x \rightarrow 0} 12 + 6x + x^2 \\ &= 12 + 6(0) + (0)^2 \\ &= 12 \end{aligned}$$

Enlace del documento:

https://docs.google.com/document/d/1fW5xT1yXegE2Ys3gl7Goi_b2-q_02z_1lV DXrGk56fE/edit