COLEGIO SEMINARIO DIOCESANO DE DUITAMA

Tecnología e informática

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Nombres y Apellidos	**Curso**	**Fecha**

Using $\lim_{\theta \to 0} \frac{Sin\,\theta}{\theta} = 1$

Find the limits in Exercises 23 - 46 (Hass et al., 2018, p. 72)

(E27.)

$$\lim_{x \to 0} \frac{Tan\,(2x)}{x}$$

Solución:

$$\begin{aligned}
\lim_{x \to 0} \frac{Tan\,2x}{x} &= \lim_{x \to 0} \frac{Sen\,(2x)}{xCos(2x)} \\
&= \lim_{x \to 0} \frac{Sen(2x)}{x} \times \frac{1}{Cos(2x)} \\
&= \lim_{x \to 0} \frac{2Sen\,(2x)}{2x} \times \lim_{x \to 0} \frac{1}{Cos(2x)} \\
&= 2 \lim_{x \to 0} \frac{Sen(2x)}{2x} \\
&= 2 \lim_{x \to 0} 1 \\
&= 2
\end{aligned}$$

Referencias:

Hass, J., Heil, C., & Weir, M. D. (Eds.). (2018). Thomas' calculus (Fourteenth edition). Pearson.

Link del documento:
https://docs.google.com/document/d/1fZuNAkcKBx6FLbprWLunT_IWaHQnpHMgK_swfSc8tx8/edit