Universidad Del Quindío

Programa de Economía

Quiz - Microeconomía I

1. $\lim_{a\to\infty} \frac{a^2+a+5}{2a^2+1}$

   Reescribamos la expresión: $\frac{a^2(1+\frac{1}{a}+\frac{5}{a^2})}{a^2(2+\frac{1}{a^2})}$

   $\frac{\cancel{a^2}(1+\frac{1}{a}+\frac{5}{a^2})}{\cancel{a^2}(2+\frac{1}{a^2})}$

   $\frac{1+\frac{1}{a}+\frac{5}{a^2}}{2+\frac{1}{a^2}} \Rightarrow \frac{1}{2}$

2. $\lim_{x\to 0} \frac{2-\sqrt[2]{x^2+4}}{x^2}$

   Miltipliquemosla por 1: $\frac{2+\sqrt[2]{x^2+4}}{2+\sqrt[2]{x^2+4}}$

   $\frac{2-\sqrt[2]{x^2+4}}{x^2} \cdot \frac{2+\sqrt[2]{x^2+4}}{2+\sqrt[2]{x^2+4}}$

   $\frac{4+2\sqrt[2]{x^2+4}-2\sqrt[2]{x^2+4}-(\sqrt[2]{x^2+4})^2}{x^2(2+\sqrt[2]{x^2+4})} \Rightarrow \frac{\cancel{4+2\sqrt[2]{x^2+4}}\cancel{-2\sqrt[2]{x^2+4}}-(\sqrt[2]{x^2+4})^2}{x^2(2+\sqrt[2]{x^2+4})}$

   $\frac{4-(x^{\frac{2}{2}}+4^{\frac{1}{2}})^2}{x^2(2+\sqrt[2]{x^2+4})} \Rightarrow \frac{4-(x^{\frac{4}{2}}+4^{\frac{2}{2}})}{x^2(2+\sqrt[2]{x^2+4})}$

   $\frac{4-x^2+4^1}{x^2(2+\sqrt[2]{x^2+4})} \Rightarrow \frac{\cancel{4}-x^2\cancel{+4}}{x^2(2+\sqrt[2]{x^2+4})}$

   $\frac{\cancel{-x^2}}{\cancel{x^2}(2+\sqrt[2]{x^2+4})} \Rightarrow \frac{-1}{2+\sqrt[2]{x^2+4}}$

   $\frac{-1}{2+x+2} \Rightarrow -\frac{1}{4}$