

Exercícios do Texto 15

MAT 111 - Cálculo I - BE

5 de junho de 2020

1. Calcule

$$(a) \quad \lim_{x \rightarrow +\infty} \frac{\sqrt{3x^2 + x + 1}}{\sqrt{5x^2 + 3x - 7}};$$

$$(b) \quad \lim_{x \rightarrow -\infty} \frac{2x^4 + 5}{\sqrt{x^4 + 3}};$$

$$(c) \quad \lim_{x \rightarrow +\infty} \frac{-5x^3 + 2}{\sqrt{x^4 + 6}};$$

$$(d) \quad \lim_{x \rightarrow 2} \frac{x^2 + 5}{(x - 2)^2};$$

$$(e) \quad \lim_{x \rightarrow +\infty} \frac{\sqrt{x + 5}}{x - 2};$$

$$(f) \quad \lim_{x \rightarrow -\infty} [-3x^4 + x^2 + 5x];$$

$$(g) \quad \lim_{x \rightarrow +\infty} [2x - \sqrt{x^2 + 1}];$$

$$(h) \quad \lim_{x \rightarrow -\infty} [x + \sqrt{x^2 + 1}];$$

$$(i) \quad \lim_{x \rightarrow -\infty} [x - \sqrt{x^2 + 1}];$$

$$(j) \quad \lim_{x \rightarrow +\infty} [x^2 - \sqrt{x^4 + x^2}];$$

$$(k) \quad \lim_{x \rightarrow +\infty} \frac{\sqrt[3]{x + 8}}{\sqrt{x + 1}};$$

$$(l) \quad \lim_{x \rightarrow +\infty} [x - \sqrt[3]{x^3 + 1}].$$