Universidade Veiga de Almeida

Curso: Básico das engenharias

Disciplina: Cálculo Diferencial e Integral I

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8^a Lista de Exercícios

Exercício 1: Calcule, os limites dados abaixo:

(a) $\lim\limits_{x\to 0} \dfrac{cos(2x) + 2x - 1}{3x}$

(b) $\lim\limits_{x\to 0} \dfrac{e^x + e^{-x} - 2}{1 - cos(2x)}$

(c) $\lim\limits_{x\to \frac{\pi}{2}^-} \dfrac{4tgx}{1 + secx}$

(d) $\lim\limits_{x\to 5} \dfrac{\sqrt{x-1} - 2}{x^2 - 25}$

(e) $\lim\limits_{x\to 1} \dfrac{x^3 - 3x + 2}{x^2 - 2x + 1}$

(f) $\lim\limits_{x\to 0} \dfrac{4^x - 6^x}{senx}$

(g) $\lim\limits_{x\to 0} \dfrac{ln(1+x)}{x}$

(h) $\lim\limits_{x\to 0} \dfrac{ln(e^2 + x) - 2}{x}$

(i) $\lim\limits_{x\to +\infty} \dfrac{2x^4}{e^{3x}}$

(j) $\lim\limits_{x\to +\infty} xe^{-x}$

(k) $\lim\limits_{x\to +\infty} \dfrac{ln(lnx)}{lnx}$

(l) $\lim\limits_{x\to 0^+} \dfrac{ln(arcsenx)}{cotgx}$

(m) $\lim\limits_{x\to 0^+} x^2 lnx$

(n) $\lim\limits_{x\to 1}\left(\dfrac{x}{x-1} - \dfrac{1}{lnx}\right)$

RESPOSTAS:

Exercício 1: (a) 2/3 (b) 1/2 (c) 4 (d) $\frac{1}{40}$ (e) 3 (f) $ln(2/3)$

(g)1 (h)$\frac{1}{e^2}$ (i) 0 (j) 0 (k) 0 (l) 0 (m) 0 (n) 1/2