Lista 02 - Revisão

1) a) $A = \lim_{x \to 0} \frac{\sin(x)}{x} = \frac{\cos(0)}{1} = 1$ | Descontínuo

$f(0) = 0$ $\quad A \neq f(0)$

b) $f(x) = x - |x|$ $\quad x \to 0$ $\quad = \mathbb{R}^-$ Contínuo

c) $A = \lim_{x \to 2} \frac{x^3 - 8}{x^2 - 4} = \frac{x^2 + 2x + 4}{x + 2} = 3$ | $f(2) = 3$ Contínuo

d) $f(x) = \frac{1}{\operatorname{sen}\left(\frac{1}{x}\right)}$ $\quad x \to \infty$ $\quad = \infty$ é Contínuo $\quad = \mathbb{R}$

e) $\lim_{x \to 0} x^2 \sin \frac{1}{x} = 0$, $f(0) = 0$ Contínuo

f) $\lim_{x \to 1^+} 1 - |x| = 0$, $\lim_{x \to 1^-} 1 - x^2 = 0$, $f(1) = 1$, Descontínuo

g) $\lim_{x \to 2} \frac{x^2 - 4}{x - 2} = x + 2 = 4$ $\quad f(2) = 0$ Descontínuo

h) $\lim_{x \to 1^+} x^2 = 1$, $\lim_{x \to 1^-} 1 - |x| = 0$ Descontínuo

i) $\lim_{x \to 2} \frac{x^2 - 3x + 7}{x^2 + 1} = \frac{5}{5} = 1$ | Contínuo

j) $\lim_{x \to -3} \frac{2}{x^3 + x^2 - 3x - 3} = \frac{2}{0}$ ∄ |

$\frac{5}{1}$ 5

(2) a) $4 \times 1^2 - 7 \times 1 + 5 = 2$

b) $\frac{6}{7}$

b) $\frac{1}{2}^3 = \frac{1}{8}$

d) $2\sqrt{2}$

e) $\frac{\sqrt[3]{225}}{5}$

f) $\nexists$

g) 3

h) 14

i) 27

j) 4096

k) 9/2

l) 5

(3) (3) ∞

(4) 2

(5) 0

(6) 0

(7) 1/2

(8) $-\infty$

(9) $-\infty$

(10) $-5/7$

(1) 0) 9

b) 4/3

c) 10/7

d) 1

e) 2

f) 3/5