Vizinidade - Limite Bilateral

1)

a) $\lim\limits_{x \to -1^+} F(x) =$ limite $\Rightarrow -1$

b) $\lim\limits_{x \to -1^-} F(x) = $ limite $= 2$

c) $\lim\limits_{x \to -1} (x) \Rightarrow$ limite $= \cancel{A}$

d) $\lim (-1) \Rightarrow$ limite $= 2$

e) $\lim\limits_{x \to 1^-} (1) \Rightarrow$ limite $= 3$

f) $\lim\limits_{x \to 1^+} (x) \Rightarrow$ limite $= 4$

g) $\lim\limits_{x \to 1} F(x) \Rightarrow$ limite $= \cancel{X}$

h) $F(1) \Rightarrow$ limite $= -1$

i) $\lim\limits_{x \to 0^+} F(x) =$ limite $= 0$

j) $\lim\limits_{x \to 0^-} F(x) =$ limite $= 0$

X) $\lim\limits_{x \to 0} F(x) \Rightarrow$ limite $= 0$

L) $\lim F(0) = 0$

M) $\lim\limits_{x \to 3^-} F(x) =$ limite $= 4$

N) $\lim F(x) =$ limite $= 4$

O) $\lim F(x) =$ limite $= 4$

P) $\lim F(3) =$ limite $= 4$

2)

a) $\lim\limits_{x \to -1^+} x =$ limite $= -1$

b) $\lim\limits_{x \to -1^-} x \Rightarrow$ limite $= -1$

c) $\lim\limits_{x \to -1} x =$ limite $= -1$

d) $\lim\limits_{x \to 0} x =$ limite $= 0$

e) $\lim\limits_{x \to \pi} x =$ limite $= \pi$ ou $3,14...$

f) $\lim\limits_{x \to \frac{1}{2}} F(x) =$ limite $= 0,5$

g) $\lim\limits_{x \to -e} x = -e$

h) $\lim\limits_{x \to \frac{\sqrt{3}}{2}} x =$ limite $= \frac{\sqrt{3}}{2}$

3) a) $\lim\limits_{x \to 0} \dfrac{1}{x} \to$ limite é ∞ infinito

b) $\lim\limits_{x \to 8} \dfrac{1}{x} \to$ limite é 0

c) $\lim\limits_{x \to 0} \dfrac{5}{x} \to$ limite é infinito

d) $\lim\limits_{x \to \infty} \dfrac{5}{x} \to$ limite é 0

e) $\lim\limits_{x \to 0} \dfrac{2x+1}{x-1} \to$ limite = $\boxed{-1}$ $\quad$ $\dfrac{2(0,0001)+1}{0,0001-1} = -1,0003$

$x = 0,0001 \mid y = -1,0003$
$x = 0,00001 \mid y = -1,00003$ $\qquad$ $\dfrac{2(0,00001)+1}{0,00001-1} = -1,00003$

f) $\lim\limits_{x \to \infty} \dfrac{2x+1}{x-1} \to$ limite = 2

$\qquad\qquad\qquad\qquad\qquad\qquad \dfrac{2(100)+1}{100-1} = 2,03 \mid \dfrac{2(1000)+1}{1000-1} = 2,00$

$x = 100 \mid y = 2,03$
$x = 1000 \mid y = 2,003$

g) $\lim\limits_{x \to 0} \dfrac{2}{x-1} \to$ limite = -2 $\qquad\qquad \lim \dfrac{2}{0,1-1} = -2,22$

$0,1 \mid y = -2,22$
$0,01 \mid y = -2,02$ $\qquad\qquad\qquad\qquad \lim \dfrac{2}{0,01-1} = -2,02$
$0,001 \mid y = -2,002$

$\qquad\qquad\qquad\qquad\qquad\qquad \lim \dfrac{2}{0,001-1} = -2,002$

h) $\lim\limits_{x \to \infty} \dfrac{2}{x-1}$ — limite é 0

$x = 10$	$y = 0,22$
$x = 100$	$y = 0,02$
$x = 1000$	$y = 0,002$

$$\lim \dfrac{2}{1000-1} = 0,002$$

j) $\lim\limits_{x \to 0} x^3$ — limite é 0   i) $\lim\limits_{x \to \infty} \dfrac{2x+1}{x-1}$ — limite é 2

$x = 0,1$	$y = 0,001$		$x = -5$	$y = 1,8$
$x = 0,01$	$y = 0,00001$		$x = -50$	$y = 1,99$
$x = 0,001$	$y = 0,000000001$		$x = -5000$	$y = 1,999$

l) $\lim\limits_{x \to \infty} x^3$ — limite é ∞ infinito

10	$y = 1000$
100	$y = 10000$
1000	$y = 100000$

m) $\lim\limits_{x \to 0} \dfrac{1}{x^2}$ — limite é ∞

$x = 0,1$	$y = 100$
$x = 0,01$	$y = 10000$
$x = 0,001$	$y = 1000000$