Lista 2 - Limites e continuidade

Calcule o limite das seguintes funções:

1)
$$\lim_{x \to 1} (4x^2 - 7x + 5)$$

2)
$$\lim_{x \to 4} (x^2 - 5x + 3)$$

3)
$$\lim_{x \to 8} \frac{\sqrt{x-4}}{x}$$

4)
$$\lim_{x \to -3} \frac{(x^2 + 2x - 3)}{5 - 3x}$$

5)
$$\lim_{x \to -2} \frac{2x-3}{x-4}$$

6)
$$\lim_{x \to 2} \left(\frac{3x^2 - 2x - 5}{-x^2 + 3x + 4} \right)^3$$

7)
$$\lim_{x \to 1} \left(\frac{5x-1}{x^2+3} - 8x \right)$$

8)
$$\lim_{x \to -1} \sqrt{\frac{2x^2 + 3x - 3}{5x - 4}}$$

9)
$$\lim_{x \to -2} \sqrt{\frac{3x^2 - 5x^2 - x + 3}{4x + 3}}$$

10)
$$\lim_{x \to 2} \sqrt{\frac{2x^2 + 3x + 2}{6 + 4x}}$$

11)
$$\lim_{x \to 4} \frac{x-4}{x^2-x-12}$$

12)
$$\lim_{x \to 3} \frac{x-3}{x^2-9}$$

13)
$$\lim_{x\to 9} \frac{x-9}{\sqrt{x}-3}$$

14)
$$\lim_{x \to -2} \frac{4-x^2}{2+x}$$

15)
$$\lim_{x \to \frac{1}{2}} \frac{2x^2 + 5x - 3}{2x^2 - 5x + 2}$$

16)
$$\lim_{x \to 1} \frac{x^3 - 1}{x^2 - 1}$$

17)
$$\lim_{x \to -2} \frac{8+x^3}{4-x^2}$$

18)
$$\lim_{x \to 1} \frac{x^3 - 3x^2 + 6x - 4}{x^3 - 4x^2 + 8x - 5}$$

19)
$$\lim_{x \to 8} \frac{x^{2/3} + 3\sqrt{x}}{4 - (16/x)}$$

20)
$$\lim_{x \to 2} \frac{x^2 - 7x + 10}{x^2 - 4}$$

21)
$$\lim_{x \to -1} \frac{x^2 + x - 2}{x^2 - 1}$$

22)
$$\lim_{x \to 25} \frac{5 - \sqrt{x}}{25 - x}$$

23)
$$\lim_{x \to 0} \frac{(x+3)^3 - 27}{x}$$

24)
$$\lim_{x\to 0} \frac{x^2}{\sqrt{x^2+12}-\sqrt{12}}$$

25)
$$\lim_{x\to 0} \frac{3}{x} \left(\frac{1}{5+x} - \frac{1}{5-x} \right)$$

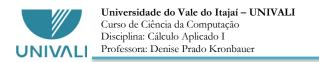
26)
$$\lim_{x \to 2} \frac{3x^2 - x - 10}{x^2 - 4}$$

27)
$$\lim_{x \to 3} \frac{x^4 - 81}{2x^2 - 5x - 3}$$

28)
$$\lim_{x \to -2} \frac{\frac{1}{x} + \frac{1}{2}}{x^3 + 8}$$

29)
$$\lim_{x \to 4} \frac{3 - \sqrt{x+5}}{x-4}$$

30)
$$\lim_{x \to -2} \frac{x^4 + 4x^3 + x^2 - 12x - 12}{2x^3 + 7x^2 + 4x - 4}$$



Lista 2 - Respostas

Calcule o limite das seguintes funções:

1)

$$2) -1$$

9)
$$\sqrt{3/5}$$

10)
$$2\sqrt{14}/7$$

15)
$$-7/3$$

19)
$$2 + 3\sqrt{2}$$

$$20) -3/4$$

24)
$$2\sqrt{12}$$

$$25) -6/25$$

$$28) -1/48$$

29)
$$-1/6$$

$$30) -1/5$$