N° _____ TITULO _____

FECHA ____/____/____

Segundo Parcial

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(1) $2x_1 + x_2 - x_3 = 1$

$5x_1 + 2x_2 + 2x_3 = -4$

$3x_1 + x_2 + x_3 = 5$

$$\left(\begin{array}{ccc|c} 2 & 1 & -1 & 1 \\ 5 & 2 & 2 & -4 \\ 3 & 1 & 1 & 5 \end{array}\right) \rightarrow \left(\begin{array}{ccc|c} 2 & 1 & -1 & 1 \\ 5-5/2\cdot 2 & 2-5/2\cdot 1 & 2-5/2\cdot(-1) & -4-(5/2)(1) \\ 3-3/2\cdot 2 & 1-3/2\cdot 1 & 1-3/2\cdot(-1) & 5-3/2(1) \end{array}\right)$$

$$\left(\begin{array}{ccc|c} 2 & 1 & -1 & 1 \\ 0 & -1/2 & 9/2 & -13/2 \\ 0 & -1/2 & 5/2 & 7/2 \end{array}\right) \rightarrow \left(\begin{array}{ccc|c} 2 & 1 & -1 & 1 \\ 0 & -1/2 & 9/2 & -13/2 \\ 0 & -1/2-\frac{(-1/2)}{(-1/2)}\cdot(-1/2) & 5/2-9/2 & 7/2+13/2 \end{array}\right)$$

$$\left(\begin{array}{ccc|c} 2 & 1 & -1 & 1 \\ 0 & -1/2 & 9/2 & -13/2 \\ 0 & 0 & -2 & 10 \end{array}\right)$$

$$x_3 = \frac{10}{-2} = -5$$

$$x_2 = \frac{-13/2 - 9/2(-5)}{-1/2} = -32$$

$$x_1 = \frac{1 + 1\cdot(-5) - 1\cdot(-32)}{2} = 14$$

$x_1 = 14$

$x_2 = -32$

$x_3 = -5$

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(2)

x	1	2	5	6
f(x)	4,75	4	19,75	36

$x = 3,5$

i	x_i	$f(x_i)$	Primera	Segunda	Tercera
0	1	4,75	$-3/4$	$3/2$	$1/4$
1	2	4	$21/4$	$11/4$	
2	5	19,75	$65/4$		
3	6	36			

Primera $f(x_i, x_j) = \dfrac{f(x_i) - f(x_j)}{x_i - x_j}$

Segunda $f(x_i, x_j, x_k) = \dfrac{f(x_i, x_j) - f(x_j, x_k)}{x_i - x_k}$

Tercera $f(x_i, x_j, x_k, x_l) = \dfrac{f(x_i, x_j, x_k) - f(x_j, x_k, x_l)}{x_i - x_l}$

$f_4(x) = 4,75 + (-3/4)(x-1) + 3/2\,(x-1)(x-2) + 1/4(x-1) \cdot (x-2)(x-5)$

$f_4(3,5) = \dfrac{227}{32} = 7,09375$

$f_4(3,5) = 7,09375$