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Solução de Sistemas de Equações Lineares do Primeiro Grau

Equações

(A) $61x_0 + 53x_1 + 47x_2 + 43x_3 = 19$
(B) $41x_0 + 37x_1 + 31x_2 + 29x_3 = 67$
(C) $23x_0 + 17x_1 + 13x_2 + 11x_3 = 71$
(D) $\ \ 7x_0 + \ \ 5x_1 + \ \ \ 3x_2 + \ \ 2x_3 = 73$

Objetivo

(A) $61x_0 + 53x_1 + 47x_2 + 43x_3 = 19$
(B) $41x_0 + 37x_1 + 31x_2 + 29x_3 = 67$
(C) $23x_0 + 17x_1 + 13x_2 + 11x_3 = 71$
(D) $7x_0 + 5x_1 + 3x_2 + 2x_3 = 73$

- Zerar os valores abaixo da diagonal principal

Passo 1
Zerar a 1ª coluna

(A) $61x_0 + 53x_1 + 47x_2 + 43x_3 = 19$
(B) $41x_0 + 37x_1 + 31x_2 + 29x_3 = 67$
(C) $23x_0 + 17x_1 + 13x_2 + 11x_3 = 71$
(D) $\ 7x_0 + \ 5x_1 + \ 3x_2 + \ 2x_3 = 73$

$$\text{(A) } 61x_0 + 53x_1 + 47x_2 + 43x_3 = 19$$
$$\text{(B) } 41x_0 + 37x_1 + 31x_2 + 29x_3 = 67$$
$$\text{(C) } 23x_0 + 17x_1 + 13x_2 + 11x_3 = 71$$
$$\text{(D) } 7x_0 + 5x_1 + 3x_2 + 2x_3 = 73$$

$$61k_b + 41 = 0 \Rightarrow k_b = -\frac{41}{61}$$

$$61k_c + 23 = 0 \Rightarrow k_c = -\frac{23}{61}$$

$$61k_d + 7 = 0 \Rightarrow k_d = -\frac{7}{61}$$

(A) $61x_0 + 53x_1 + 47x_2 + 43x_3 = 19$
(B) $41x_0 + 37x_1 + 31x_2 + 29x_3 = 67$
(C) $23x_0 + 17x_1 + 13x_2 + 11x_3 = 71$
(D) $7x_0 + 5x_1 + 3x_2 + 2x_3 = 73$

$$k_b = -\frac{41}{61}$$

$$k_c = -\frac{23}{61}$$

$$k_d = -\frac{7}{61}$$

$$k_b = -\frac{41}{61} \rightarrow (A) \times k_b$$

$$k_b \times (61x_0 + 53x_1 + 47x_2 + 43x_3) = k_b \times 19$$

$$k_c = -\frac{23}{61} \rightarrow (A) \times k_c$$

$$k_c \times (61x_0 + 53x_1 + 47x_2 + 43x_3) = k_c \times 19$$

$$k_d = -\frac{7}{61} \rightarrow (A) \times k_d$$

$$k_d \times (61x_0 + 53x_1 + 47x_2 + 43x_3) = k_d \times 19$$

(A) $61x_0 + 53x_1 + 47x_2 + 43x_3 = 19$

(B) $41x_0 + 37x_1 + 31x_2 + 29x_3 = 67$

(C) $23x_0 + 17x_1 + 13x_2 + 11x_3 = 71$

(D) $7x_0 + 5x_1 + 3x_2 + 2x_3 = 73$

$$61k_b x_0 + 53k_b x_1 + 47k_b x_2 + 43k_b x_3 = 19k_b$$

$$61k_c x_0 + 53k_c x_1 + 47k_c x_2 + 43k_c x_3 = 19k_c$$

$$61k_d x_0 + 53k_d x_1 + 47k_d x_2 + 43k_d x_3 = 19k_d$$

$$k_b = -\frac{41}{61}$$

$$k_c = -\frac{23}{61}$$

$$k_d = -\frac{7}{61}$$

(A) $61x_0 + 53x_1 + 47x_2 + 43x_3 = 19$
(B) $41x_0 + 37x_1 + 31x_2 + 29x_3 = 67$
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(D) $\;\,7x_0 + \;\;5x_1 + \;\;\,3x_2 + \;\;2x_3 = 73$

$$k_b = -\frac{41}{61}$$

$$k_c = -\frac{23}{61}$$

$$k_d = -\frac{7}{61}$$

$$61k_b x_0 + 53k_b x_1 + 47k_b x_2 + 43k_b x_3 = 19k_b$$

$$-61\frac{41}{61}x_0 - 53\frac{41}{61}x_1 - 47\frac{41}{61}x_2 - 43\frac{41}{61}x_3 = -19\frac{41}{61}$$

$$61k_c x_0 + 53k_c x_1 + 47k_c x_2 + 43k_c x_3 = 19k_c$$

$$-61\frac{23}{61}x_0 - 53\frac{23}{61}x_1 - 47\frac{23}{61}\;\;x_2 - 43\frac{23}{61}x_3 = -19\frac{23}{61}$$

$$61k_d x_0 + 53k_d x_1 + 47k_d x_2 + 43k_d x_3 = 19k_d$$

$$-61\frac{7}{61}x_0 - 53\frac{7}{61}x_1 - 47\frac{7}{61}x_2 - 43\frac{7}{61}x_3 = -19\frac{7}{61}$$

(A) $61x_0 + 53x_1 + 47x_2 + 43x_3 = 19$
(B) $41x_0 + 37x_1 + 31x_2 + 29x_3 = 67$
(C) $23x_0 + 17x_1 + 13x_2 + 11x_3 = 71$
(D) $7x_0 + 5x_1 + 3x_2 + 2x_3 = 73$

$$k_b = -\frac{41}{61}$$

$$k_c = -\frac{23}{61}$$

$$k_d = -\frac{7}{61}$$

$$-41x_0 - \frac{2173}{61}x_1 - \frac{1927}{61}x_2 - \frac{1763}{61}x_3 = -\frac{779}{61}$$

$$-23x_0 - \frac{1219}{61}x_1 - \frac{1081}{61}x_2 - \frac{989}{61}x_3 = -\frac{437}{61}$$

$$-7x_0 - \frac{371}{61}x_1 - \frac{329}{61}x_2 - \frac{301}{61}x_3 = -\frac{133}{61}$$

(A) $61x_0 + 53x_1 + 47x_2 + 43x_3 = 19$
(B) $41x_0 + 37x_1 + 31x_2 + 29x_3 = 67$
(C) $23x_0 + 17x_1 + 13x_2 + 11x_3 = 71$
(D) $\ 7x_0 + \ 5x_1 + \ 3x_2 + \ 2x_3 = 73$

Somar à equação (B) e substituir

$$41x_0 + \quad 37x_1 + \quad 31x_2 + \quad 29x_3 = 67 \quad +$$

$$-41x_0 - \frac{2173}{61}x_1 - \frac{1927}{61}x_2 - \frac{1763}{61}x_3 = -\frac{779}{61}$$

$$(41 - 41)x_0 + (37 - \frac{2173}{61})x_1 + (31 - \frac{1927}{61})x_2 + (29 - \frac{1763}{61})x_3 = 67 - \frac{779}{61}$$

$$0 + \frac{84}{61}x_1 - \frac{36}{61}x_2 + \frac{6}{61}x_3 = \frac{3308}{61}$$

$$k_b = -\frac{41}{61}$$

$$k_c = -\frac{23}{61}$$

$$k_d = -\frac{7}{61}$$

(A) $61x_0 + 53x_1 + 47x_2 + 43x_3 = 19$
(B) $41x_0 + 37x_1 + 31x_2 + 29x_3 = 67$
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$$k_b = -\frac{41}{61}$$

$$k_c = -\frac{23}{61}$$

$$k_d = -\frac{7}{61}$$

Somar à equação (C) e substituir

$$23x_0 + 17x_1 + 13x_2 + 11x_3 = 71 +$$

$$-23x_0 - \frac{1219}{61}x_1 - \frac{1081}{61}x_2 - \frac{989}{61}x_3 = -\frac{437}{61}$$

$$(23-23)x_0 + (17 - \frac{1219}{61})x_1 + (13 - \frac{1081}{61})x_2 + (11 - \frac{989}{61}x_3) = 71 - \frac{437}{61}$$

$$0 - \frac{182}{61}x_1 - \frac{288}{61}x_2 - \frac{318}{61}x_3 = \frac{3894}{61}$$

(A) $61x_0 + 53x_1 + 47x_2 + 43x_3 = 19$
(B) $41x_0 + 37x_1 + 31x_2 + 29x_3 = 67$
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$$k_b = -\frac{41}{61}$$

$$k_c = -\frac{23}{61}$$

$$k_d = -\frac{7}{61}$$

Somar à equação (D) e substituir

$$7x_0 + 5x_1 + 3x_2 + 2x_3 = 73 \ +$$

$$-7x_0 - \frac{371}{61}x_1 - \frac{329}{61}x_2 - \frac{301}{61}x_3 = -\frac{133}{61}$$

$$(7-7)x_0 + (5 - \frac{371}{61})x_1 + (3 - \frac{329}{61})x_2 + \left(2 - \frac{301}{61}\right)x_3 = 73 - \frac{133}{61}$$

$$0 - \frac{66}{61}x_1 - \frac{146}{61}x_2 - \frac{179}{61}x_3 = \frac{4320}{61}$$

Sistema após o Passo 1

(A) $61x_0 + 53x_1 + 47x_2 + 43x_3 = 19$

(B) $0 + \dfrac{84}{61}x_1 - \dfrac{36}{61}x_2 + \dfrac{6}{61}x_3 = \dfrac{3308}{61}$

(C) $0 - \dfrac{182}{61}x_1 - \dfrac{288}{61}x_2 - \dfrac{318}{61}x_3 = \dfrac{3894}{61}$

(D) $0 - \dfrac{66}{61}x_1 - \dfrac{146}{61}x_2 - \dfrac{179}{61}x_3 = \dfrac{4320}{61}$

(A) $61x_0 + 53x_1 + 47x_2 + 43x_3 = 19$

(B) $0 + \dfrac{84}{61}x_1 - \dfrac{36}{61}x_2 + \dfrac{6}{61}x_3 = \dfrac{3308}{61}$

(C) $0 - \boxed{\dfrac{182}{61}x_1} - \dfrac{288}{61}x_2 - \dfrac{318}{61}x_3 = \dfrac{3894}{61}$

(D) $0 - \dfrac{66}{61}x_1 - \dfrac{146}{61}x_2 - \dfrac{179}{61}x_3 = \dfrac{4320}{61}$

(A) $61x_0 + 53x_1 + 47x_2 + 43x_3 = 19$

(B) $0 + \frac{84}{61}x_1 - \frac{36}{61}x_2 + \frac{6}{61}x_3 = \frac{3308}{61}$

(C) $0 - \frac{182}{61}x_1 - \frac{288}{61}x_2 - \frac{318}{61}x_3 = \frac{3894}{61}$

(D) $0 - \frac{66}{61}x_1 - \frac{146}{61}x_2 - \frac{179}{61}x_3 = \frac{4320}{61}$

$$\frac{84}{61}k_c - \frac{182}{61} = 0 \rightarrow k_c = \frac{182}{61}\frac{61}{84} = \frac{182}{84}$$

$$\frac{84}{61}k_d - \frac{66}{61} = 0 \rightarrow k_d = \frac{66}{61}\frac{61}{84} = \frac{66}{84}$$

(A) $61x_0 + 53x_1 + 47x_2 + 43x_3 = 19$

(B) $0 + \frac{84}{61}x_1 - \frac{36}{61}x_2 + \frac{6}{61}x_3 = \frac{3308}{61}$

(C) $0 - \frac{182}{61}x_1 - \frac{288}{61}x_2 - \frac{318}{61}x_3 = \frac{3894}{61}$

(D) $0 - \frac{66}{61}x_1 - \frac{146}{61}x_2 - \frac{179}{61}x_3 = \frac{4320}{61}$

$$k_c = \frac{182}{84}$$

$$k_d = \frac{66}{84}$$

$$k_c = \frac{182}{84} \rightarrow (B) \times k_c$$

$$k_c \times (0 + \frac{84}{61}x_1 - \frac{36}{61}x_2 + \frac{6}{61}x_3) = k_c \times \frac{3308}{61}$$

$$k_d = \frac{66}{84} \rightarrow (B) \times k_d$$

$$k_d \times (0 + \frac{84}{61}x_1 - \frac{36}{61}x_2 + \frac{6}{61}x_3) = k_d \times \frac{3894}{61}$$

(A) $61x_0 + 53x_1 + 47x_2 + 43x_3 = 19$

(B) $0 + \dfrac{84}{61}x_1 - \dfrac{36}{61}x_2 + \dfrac{6}{61}x_3 = \dfrac{3308}{61}$

(C) $0 - \dfrac{182}{61}x_1 - \dfrac{288}{61}x_2 - \dfrac{318}{61}x_3 = \dfrac{3894}{61}$

(D) $0 - \dfrac{66}{61}x_1 - \dfrac{146}{61}x_2 - \dfrac{179}{61}x_3 = \dfrac{4320}{61}$

$$0k_c + \dfrac{84}{61}k_c x_1 - \dfrac{36}{61}k_c x_2 + \dfrac{6}{61}k_c x_3 = \dfrac{3308}{61}k_c$$

$$0k_d + \dfrac{84}{61}k_d x_1 - \dfrac{36}{61}k_d x_2 + \dfrac{6}{61}k_d x_3 = \dfrac{3894}{61}k_d$$

$$k_c = \dfrac{182}{84}$$

$$k_d = \dfrac{66}{84}$$

(A) $61x_0 + 53x_1 + 47x_2 + 43x_3 = 19$

(B) $0 + \frac{84}{61}x_1 - \frac{36}{61}x_2 + \frac{6}{61}x_3 = \frac{3308}{61}$

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$$k_c = \frac{182}{84}$$

$$k_d = \frac{66}{84}$$

$$0k_c + \frac{84}{61}k_c x_1 - \frac{36}{61}k_c x_2 + \frac{6}{61}k_c x_3 = \frac{3308}{61}k_c$$

$$0\frac{182}{84} + \frac{84}{61}\frac{182}{84}x_1 - \frac{36}{61}\frac{182}{84}x_2 + \frac{6}{61}\frac{182}{84}x_3 = \frac{3308}{61}\frac{182}{84}$$

$$0 + \frac{182}{61}x_1 - \frac{6552}{5124}x_2 + \frac{1092}{5124}x_3 = \frac{602056}{5124}$$

$$0k_d + \frac{84}{61}k_d x_1 - \frac{36}{61}k_d x_2 + \frac{6}{61}k_d x_3 = \frac{3308}{61}k_d$$

$$0\frac{66}{84} + \frac{84}{61}\frac{66}{84}x_1 - \frac{36}{61}\frac{66}{84}x_2 + \frac{6}{61}\frac{66}{84}x_3 = \frac{3308}{61}\frac{66}{84}$$

$$0 + \frac{66}{61}x_1 - \frac{2376}{5124}x_2 + \frac{396}{5124}x_3 = \frac{218328}{5124}$$

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(A) $61x_0 + 53x_1 + 47x_2 + 43x_3 = 19$

(B) $0 + \frac{84}{61}x_1 - \frac{36}{61}x_2 + \frac{6}{61}x_3 = \frac{3308}{61}$

(C) $0 - \frac{182}{61}x_1 - \frac{288}{61}x_2 - \frac{318}{61}x_3 = \frac{3894}{61}$

(D) $0 - \frac{66}{61}x_1 - \frac{146}{61}x_2 - \frac{179}{61}x_3 = \frac{4320}{61}$

$$k_c = \frac{182}{84}$$

$$k_d = \frac{66}{84}$$

$$0 + \frac{182}{61}x_1 - \frac{6552}{5124}x_2 + \frac{1092}{5124}x_3 = \frac{602056}{5124}$$

$$0 + \frac{66}{61}x_1 - \frac{2376}{5124}x_2 + \frac{396}{5124}x_3 = \frac{218328}{5124}$$

(A) $61x_0 + 53x_1 + 47x_2 + 43x_3 = 19$

(B) $0 + \frac{84}{61}x_1 - \frac{36}{61}x_2 + \frac{6}{61}x_3 = \frac{3308}{61}$

(C) $0 - \frac{182}{61}x_1 - \frac{288}{61}x_2 - \frac{318}{61}x_3 = \frac{3894}{61}$

(D) $0 - \frac{66}{61}x_1 - \frac{146}{61}x_2 - \frac{179}{61}x_3 = \frac{4320}{61}$

$$k_c = \frac{182}{84}$$

$$k_d = \frac{66}{84}$$

Somar à equação (C) e substituir

$$0 - \frac{182}{61}x_1 - \frac{288}{61}x_2 - \frac{318}{61}x_3 = \frac{3894}{61} \quad +$$

$$0 + \frac{182}{61}x_1 - \frac{6552}{5124}x_2 + \frac{1092}{5124}x_3 = \frac{602056}{5124}$$

$$0 + \left(\frac{182}{61} - \frac{182}{61}\right)x_1 - \left(\frac{6552}{5124} + \frac{288}{61}\right)x_2 + \left(\frac{1092}{5124} - \frac{318}{61}x_3\right) = \frac{602056}{5124} + \frac{3894}{61}$$

$$0 + 0 - \frac{1875384}{312564}x_2 - \frac{1562820}{312564}x_3 = \frac{56678272}{312564}$$

(A) $61x_0 + 53x_1 + 47x_2 + 43x_3 = 19$

(B) $0 + \frac{84}{61}x_1 - \frac{36}{61}x_2 + \frac{6}{61}x_3 = \frac{3308}{61}$

(C) $0 - \frac{182}{61}x_1 - \frac{288}{61}x_2 - \frac{318}{61}x_3 = \frac{3894}{61}$

(D) $0 - \frac{66}{61}x_1 - \frac{146}{61}x_2 - \frac{179}{61}x_3 = \frac{4320}{61}$

$k_c = \frac{182}{84}$

$k_d = \frac{66}{84}$

Somar à equação (D) e substituir

$$0 - \frac{66}{61}x_1 - \frac{146}{61}x_2 - \frac{179}{61}x_3 = \frac{4320}{61} \quad +$$

$$0 + \frac{66}{61}x_1 - \frac{2376}{5124}x_2 + \frac{396}{5124}x_3 = \frac{218328}{5124}$$

$$0 + \left(\frac{66}{61} - \frac{66}{61}\right)x_1 - \left(\frac{2376}{5124} + \frac{146}{61}\right)x_2 + \left(\frac{396}{5124} - \frac{179}{61}\right)x_3 = \frac{218328}{5124} + \frac{4320}{61}$$

$$0 + 0 - \frac{893040}{312564}x_2 - \frac{893040}{312564}x_3 = \frac{35453688}{312564}$$

(A) $61x_0 + 53x_1 + 47x_2 + 43x_3 = 19$

(B) $0 + \frac{84}{61}x_1 - \frac{36}{61}x_2 + \frac{6}{61}x_3 = \frac{3308}{61}$

(C) $0 + 0 - \frac{1875384}{312564}x_2 - \frac{1562820}{312564}x_3 = \frac{56678272}{312564}$

(D) $0 + 0 - \frac{893040}{312564}x_2 - \frac{893040}{312564}x_3 = \frac{35453688}{312564}$

(A) $61x_0 + 53x_1 + 47x_2 + 43x_3 = 19$

(B) $0 + \frac{84}{61}x_1 - \frac{36}{61}x_2 + \frac{6}{61}x_3 = \frac{3308}{61}$

(C) $0 + 0 - \frac{1875384}{312564}x_2 - \frac{1562820}{312564}x_3 = \frac{56678272}{312564}$

(D) $0 + 0 \boxed{- \frac{893040}{312564}x_2} - \frac{893040}{312564}x_3 = \frac{35453688}{312564}$

(A) $61x_0 + 53x_1 + 47x_2 + 43x_3 = 19$

(B) $0 + \frac{84}{61}x_1 - \frac{36}{61}x_2 + \frac{6}{61}x_3 = \frac{3308}{61}$

(C) $0 + 0 - \frac{1875384}{312564}x_2 - \frac{1562820}{312564}x_3 = \frac{56678272}{312564}$

(D) $0 + 0 - \frac{893040}{312564}x_2 - \frac{893040}{312564}x_3 = \frac{35453688}{312564}$

$$-\frac{1875384}{312564}k_d - \frac{893040}{312564} = 0 \rightarrow$$

$$k_d = \frac{893040}{312564}\frac{312564}{1875384} = -\frac{893040}{1875384}$$

$$k_d = -\frac{893040}{1875384}$$

(A) $61x_0 + 53x_1 + 47x_2 + 43x_3 = 19$

(B) $0 + \frac{84}{61}x_1 - \frac{36}{61}x_2 + \frac{6}{61}x_3 = \frac{3308}{61}$

(C) $0 + 0 - \frac{1875384}{312564}x_2 - \frac{1562820}{312564}x_3 = \frac{56678272}{312564}$

(D) $0 + 0 - \frac{893040}{312564}x_2 - \frac{893040}{312564}x_3 = \frac{35453688}{312564}$

$$k_d = -\frac{893040}{1875384}$$

$k_d = \frac{893040}{1875384} \to (C) \times k_d$

$$k_d \times (0 + 0 - \frac{1875384}{312564}x_2 - \frac{1562820}{312564}x_3) = k_d \times \frac{56678272}{312564}$$

$$0k_d + 0k_d - \frac{1875384}{312564}k_d x_2 - \frac{1562820}{312564}k_d x_3 = \frac{56678272}{312564}k_d$$

$$0 + 0 + \frac{1875384}{312564}\frac{893040}{1875384}x_2 + \frac{1562820}{312564}\frac{893040}{1875384}x_3 = \frac{56678272}{312564}\frac{893040}{1875384}$$

$$0 + 0 + \frac{893040}{312564}x_2 + \frac{1.395.660.772.800}{586.177.524.576}x_3 = \frac{33.630.086.031.360}{1875384}$$

Somar a equação resultante à equação (D)

(A) $61x_0 + 53x_1 + 47x_2 + 43x_3 = 19$

(B) $0 + \frac{84}{61}x_1 - \frac{36}{61}x_2 + \frac{6}{61}x_3 = \frac{3308}{61}$

(C) $0 + 0 - \frac{1875384}{312564}x_2 - \frac{1618330}{312564}x_3 = \frac{37657984}{312564}$

(D) $0 + 0 - \frac{893040}{312564}x_2 + \frac{941352}{312564}x_3 = \frac{37555920}{307440}$

$$k_d = \frac{893040}{1875384}$$

Somar à equação (D) e substituir

$0 + 0 - \frac{893040}{312564}x_2 + \frac{941352}{312564}x_3 = \frac{37555920}{307440}$

$0 + 0 + \frac{893040}{312564}x_2 + \frac{1.395.660.772.800}{586.177.524.576}x_3 = \frac{33.630.086.031.360}{1875384}$

$0 + 0 + (\frac{893040}{312564} - \frac{893040}{312564})x_2 + (\frac{941352}{312564} + \frac{1.395.660.772.800}{586.177.524.576})x_3$

$= \frac{37555920}{307440} + \frac{33.630.086.031.360}{1875384}$

$0 + 0 + 0 + \frac{988032698904125952}{183217991791572864}x_3 = \frac{1033930408125279 1680}{576568056960}$

Sistema após o Passo 3

(A) $61x_0 + 53x_1 + 47x_2 + 43x_3 = 19$

(B) $0 + \frac{84}{61}x_1 - \frac{36}{61}x_2 + \frac{6}{61}x_3 = \frac{3308}{61}$

(C) $0 + 0 - \frac{1875384}{312564}x_2 - \frac{1618330}{312564}x_3 = \frac{37657984}{312564}$

(D) $0 + 0 + 0 + \frac{988032698904125952}{183217991791572864}x_3 = \frac{10339304081252791680}{576568056960}$

Cálculo de x_3

- Utilizando a equação (D):

$$0 + 0 + 0 + \frac{988032698904125952}{183217991791572864}x_3 = \frac{10339304081252791680}{576568056960}$$

$$x_3 = \frac{10339304081252791680}{576568056960} \times \frac{183217991791572864}{988032698904125952}$$

$$x_3 = \text{-}56{,}86666667$$

Cálculo de x₂

- Utilizando a equação (C)

$$-\frac{1875384}{312564}x_2 - \frac{1618330}{312564}x_3 = \frac{37657984}{312564}$$

$$x_3 = -56,86666667$$

- Substituindo o valor de x₃

$$\frac{1875384}{312564}x_2 = -\frac{37657984}{312564} - \frac{1618330}{312564}x_3$$

$$x_2 = \frac{-\dfrac{37657984}{312564} - \dfrac{1618330}{312564}x_3}{\dfrac{1875384}{312564}}$$

$$x_2 = 17,16666667$$

Cálculo de x₁

- Utilizando a equação (B)

$$\frac{84}{61}x_1 - \frac{36}{61}x_2 + \frac{6}{61}x_3 = \frac{3308}{61}$$

$x_2 = 17,16666667$
$x_3 = -56,86666667$

- Substituindo os valores de x₂ e x₃

$$\frac{84}{61}x_1 = \frac{3308}{61} + \frac{36}{61}x_2 - \frac{6}{61}x_3$$

$$x_1 = \frac{\frac{3308}{61} + \frac{36}{61}x_2 - \frac{6}{61}x_3}{\frac{84}{61}}$$

$x_1 = 50,8$

Cálculo de x_0

- Utilizando a equação (A)

$$61x_0 + 53x_1 + 47x_2 + 43x_3 = 19$$

$$x_1 = 50,8$$
$$x_2 = 17,16666667$$
$$x_3 = -56,86666667$$

- Substituindo os valores de x_1, x_2 e x_3

$$61x_0 = 19 - 53x_1 - 47x_2 - 43x_3$$
$$x_0 = \frac{19 - 53x_1 - 47x_2 - 43x_3}{61}$$
$$x_0 = 0,298106439$$

Alexandre Meslin

Solução de Sistemas de Equações Lineares do Primeiro Grau