

Segunda prova de Programação Linear

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Prova 1 ...

Problema 1

$$y_1 = 6, y_2 = 0, y_3 = 7, y_4 = 3, \\ x_{2,1} = 2, x_{2,3} = 4, x_{4,3} = 10, x_{4,1} = 12, x_{1,3} = 0, x_{2,4} = 10,$$

Problema 2

$$y_1 = 0, y_2 = 6, y_3 = 3, y_4 = 1, \\ x_{1,2} = 6, x_{3,2} = 2, x_{4,3} = 12, x_{1,4} = 0, x_{1,3} = 12, x_{4,2} = 6,$$

Problema 3

$$y_1 = 5, y_2 = 9, y_3 = 4, y_4 = 0, y_5 = 11, y_6 = 2, \\ x_{1,2} = 10, x_{3,2} = 10, x_{4,3} = 10, x_{4,1} = 10, x_{1,5} = 4, x_{2,5} = 8, x_{6,3} = 10, x_{6,4} = 0, x_{5,6} = 0,$$

Prova 2 ...

Problema 1

$$y_1 = -2, y_2 = 0, y_3 = 5, y_4 = 2, \\ x_{1,2} = 4, x_{2,3} = 8, x_{4,3} = 14, x_{1,4} = 12, x_{3,1} = 0, x_{2,4} = 6,$$

Problema 2

$$y_1 = -6, y_2 = 0, y_3 = 3, y_4 = 7, \\ x_{1,2} = 8, x_{2,3} = 2, x_{3,4} = 12, x_{1,4} = 2, x_{3,1} = 0, x_{2,4} = 12,$$

Problema 3

$$y_1 = -11, y_2 = 4, y_3 = 6, y_4 = -5, y_5 = -4, y_6 = 0, \\ x_{1,2} = 12, x_{2,3} = 8, x_{3,4} = 0, x_{1,4} = 12, x_{1,5} = 8, x_{2,5} = 0, x_{6,3} = 4, x_{4,6} = 14, x_{5,6} = 6,$$

Prova 3 ...

Problema 1

$$y_1 = -5, y_2 = 0, y_3 = 6, y_4 = -7, \\ x_{1,2} = 4, x_{2,3} = 10, x_{4,3} = 8, x_{4,1} = 8, x_{1,3} = 6, x_{4,2} = 0,$$

Problema 2

$$y_1 = 0, y_2 = 4, y_3 = 6, y_4 = 2, \\ x_{1,2} = 10, x_{2,3} = 14, x_{4,3} = 4, x_{1,4} = 10, x_{3,1} = 0, x_{4,2} = 6,$$

Problema 3

$$y_1 = 0, y_2 = 14, y_3 = 11, y_4 = 4, y_5 = 4, y_6 = 7, \\ x_{1,2} = 10, x_{3,2} = 4, x_{4,3} = 14, x_{1,4} = 8, x_{5,1} = 0, x_{2,5} = 0, x_{6,3} = 10, x_{4,6} = 12, x_{5,6} = 6,$$

Prova 4 ...

Problema 1

$$y_1 = -1, y_2 = 8, y_3 = 5, y_4 = 0, \\ x_{1,2} = 14, x_{3,2} = 4, x_{4,3} = 12, x_{4,1} = 0, x_{1,3} = 4, x_{4,2} = 10,$$

Problema 2

$$y_1 = 6, y_2 = 2, y_3 = 0, y_4 = -2, \\ x_{2,1} = 10, x_{3,2} = 8, x_{3,4} = 0, x_{4,1} = 14, x_{3,1} = 10, x_{4,2} = 4,$$

Problema 3

$$y_1 = 0, y_2 = 4, y_3 = 2, y_4 = -2, y_5 = 6, y_6 = -3, \\ x_{1,2} = 12, x_{3,2} = 6, x_{4,3} = 2, x_{4,1} = 6, x_{1,5} = 6, x_{2,5} = 4, x_{6,3} = 2, x_{6,4} = 0, x_{6,5} = 0,$$

Prova 5 ...

Problema 1

$$y_1 = 0, y_2 = 8, y_3 = 2, y_4 = -3, \\ x_{1,2} = 10, x_{3,2} = 2, x_{3,4} = 0, x_{4,1} = 10, x_{1,3} = 10, x_{4,2} = 8,$$

Problema 2

$$y_1 = 0, y_2 = 6, y_3 = -3, y_4 = 0, \\ x_{1,2} = 10, x_{3,2} = 12, x_{3,4} = 2, x_{4,1} = 0, x_{3,1} = 12, x_{4,2} = 8,$$

Problema 3

$$y_1 = 0, y_2 = 6, y_3 = 13, y_4 = 2, y_5 = 10, y_6 = 16, \\ x_{1,2} = 2, x_{3,2} = 0, x_{4,3} = 12, x_{1,4} = 4, x_{1,5} = 12, x_{2,5} = 10, x_{3,6} = 8, x_{6,4} = 0, x_{5,6} = 6,$$

Prova 6 ...

Problema 1

$$y_1 = 6, y_2 = 2, y_3 = 0, y_4 = 0, \\ x_{2,1} = 10, x_{3,2} = 4, x_{4,3} = 0, x_{4,1} = 6, x_{3,1} = 14, x_{4,2} = 12,$$

Problema 2

$$y_1 = 12, y_2 = 8, y_3 = 6, y_4 = 0, \\ x_{2,1} = 6, x_{3,2} = 2, x_{4,3} = 10, x_{4,1} = 10, x_{3,1} = 8, x_{2,4} = 0,$$

Problema 3

$$y_1 = -8, y_2 = -1, y_3 = 1, y_4 = 5, y_5 = -3, y_6 = 0, \\ x_{2,1} = 0, x_{2,3} = 8, x_{3,4} = 10, x_{1,4} = 14, x_{1,5} = 2, x_{5,2} = 8, x_{6,3} = 0, x_{6,4} = 8, x_{5,6} = 4,$$

Prova 7 ...

Problema 1

$$y_1 = 6, y_2 = -2, y_3 = 0, y_4 = 4, \\ x_{1,2} = 0, x_{2,3} = 8, x_{3,4} = 6, x_{4,1} = 8, x_{3,1} = 10, x_{2,4} = 2,$$

Problema 2

$$y_1 = 4, y_2 = 2, y_3 = 0, y_4 = 10, \\ x_{2,1} = 12, x_{3,2} = 4, x_{3,4} = 14, x_{1,4} = 2, x_{3,1} = 2, x_{4,2} = 0,$$

Problema 3

$$y_1 = 0, y_2 = 5, y_3 = -3, y_4 = 4, y_5 = 3, y_6 = 0, \\ x_{1,2} = 8, x_{2,3} = 0, x_{3,4} = 14, x_{4,1} = 0, x_{1,5} = 8, x_{5,2} = 14, x_{3,6} = 12, x_{6,4} = 2, x_{6,5} = 12,$$

Prova 8 ...

Problema 1

$$y_1 = 2, y_2 = 0, y_3 = 2, y_4 = 4, \\ x_{2,1} = 4, x_{2,3} = 2, x_{3,4} = 12, x_{1,4} = 6, x_{1,3} = 0, x_{2,4} = 8,$$

Problema 2

$$y_1 = 0, y_2 = 2, y_3 = 8, y_4 = -1, \\ x_{1,2} = 12, x_{2,3} = 8, x_{4,3} = 14, x_{4,1} = 0, x_{1,3} = 8, x_{4,2} = 12,$$

Problema 3

$$y_1 = 15, y_2 = 5, y_3 = 0, y_4 = 20, y_5 = 10, y_6 = 25, \\ x_{2,1} = 2, x_{3,2} = 12, x_{4,3} = 0, x_{1,4} = 12, x_{5,1} = 12, x_{2,5} = 14, x_{3,6} = 2, x_{4,6} = 14, x_{5,6} = 0,$$

Prova 9 ...

Problema 1

$$y_1 = 7, y_2 = 0, y_3 = 3, y_4 = 13, \\ x_{1,2} = 0, x_{2,3} = 2, x_{3,4} = 4, x_{1,4} = 6, x_{3,1} = 10, x_{2,4} = 12,$$

Problema 2

$$y_1 = 0, y_2 = 10, y_3 = 4, y_4 = 6, \\ x_{1,2} = 2, x_{2,3} = 0, x_{3,4} = 10, x_{1,4} = 12, x_{1,3} = 2, x_{4,2} = 14,$$

Problema 3

$$y_1 = 2, y_2 = 0, y_3 = 6, y_4 = 9, y_5 = -4, y_6 = -8, \\ x_{2,1} = 10, x_{2,3} = 10, x_{3,4} = 8, x_{1,4} = 6, x_{5,1} = 2, x_{2,5} = 0, x_{3,6} = 0, x_{6,4} = 2, x_{6,5} = 6,$$

Prova 10 ...

Problema 1

$$y_1 = 5, y_2 = -9, y_3 = -6, y_4 = 0, \\ x_{1,2} = 0, x_{2,3} = 2, x_{3,4} = 14, x_{4,1} = 4, x_{3,1} = 6, x_{2,4} = 2,$$

Problema 2

$$y_1 = -10, y_2 = -6, y_3 = 0, y_4 = 2, \\ x_{1,2} = 2, x_{2,3} = 6, x_{3,4} = 14, x_{4,1} = 0, x_{1,3} = 12, x_{2,4} = 4,$$

Problema 3

$$y_1 = 2, y_2 = 0, y_3 = 17, y_4 = 0, y_5 = 8, y_6 = 14, \\ x_{2,1} = 4, x_{3,2} = 0, x_{4,3} = 10, x_{4,1} = 2, x_{1,5} = 2, x_{5,2} = 0, x_{6,3} = 10, x_{4,6} = 8, x_{5,6} = 14,$$

Prova 11 ...

Problema 1

$$y_1 = 8, y_2 = 6, y_3 = 0, y_4 = 3, \\ x_{2,1} = 12, x_{3,2} = 4, x_{3,4} = 8, x_{4,1} = 2, x_{1,3} = 0, x_{4,2} = 4,$$

Problema 2

$$y_1 = 0, y_2 = 3, y_3 = 3, y_4 = 5, \\ x_{1,2} = 12, x_{3,2} = 0, x_{3,4} = 14, x_{1,4} = 2, x_{1,3} = 4, x_{2,4} = 14,$$

Problema 3

$$y_1 = -12, y_2 = 0, y_3 = 5, y_4 = 9, y_5 = -6, y_6 = 2, \\ x_{2,1} = 0, x_{2,3} = 4, x_{3,4} = 6, x_{1,4} = 10, x_{1,5} = 14, x_{5,2} = 12, x_{6,3} = 12, x_{6,4} = 10, x_{6,5} = 0,$$

Prova 12 ...

Problema 1

$$y_1 = -6, y_2 = 0, y_3 = 8, y_4 = 4, \\ x_{1,2} = 4, x_{2,3} = 14, x_{4,3} = 12, x_{4,1} = 0, x_{1,3} = 4, x_{2,4} = 10,$$

Problema 2

$$y_1 = 0, y_2 = -6, y_3 = 7, y_4 = 2, \\ x_{2,1} = 8, x_{2,3} = 14, x_{4,3} = 12, x_{1,4} = 6, x_{1,3} = 4, x_{4,2} = 0,$$

Problema 3

$$y_1 = 10, y_2 = 16, y_3 = 4, y_4 = 0, y_5 = 8, y_6 = 5, \\ x_{1,2} = 4, x_{3,2} = 14, x_{4,3} = 14, x_{1,4} = 0, x_{5,1} = 4, x_{5,2} = 10, x_{6,3} = 0, x_{4,6} = 8, x_{6,5} = 10,$$

Prova 13 ...

Problema 1

$$y_1 = 10, y_2 = 3, y_3 = 5, y_4 = 0, \\ x_{2,1} = 8, x_{2,3} = 4, x_{4,3} = 2, x_{1,4} = 0, x_{3,1} = 14, x_{4,2} = 2,$$

Problema 2

$$y_1 = 0, y_2 = 4, y_3 = -2, y_4 = 2, \\ x_{1,2} = 12, x_{2,3} = 0, x_{3,4} = 6, x_{1,4} = 14, x_{3,1} = 14, x_{4,2} = 10,$$

Problema 3

$$y_1 = 4, y_2 = -5, y_3 = 0, y_4 = -3, y_5 = -1, y_6 = 3, \\ x_{1,2} = 0, x_{2,3} = 14, x_{4,3} = 14, x_{4,1} = 12, x_{5,1} = 2, x_{2,5} = 10, x_{3,6} = 2, x_{4,6} = 0, x_{5,6} = 12,$$

Prova 14 ...

Problema 1

$$y_1 = 0, y_2 = 5, y_3 = 3, y_4 = 10, \\ x_{1,2} = 6, x_{3,2} = 14, x_{3,4} = 14, x_{4,1} = 0, x_{1,3} = 12, x_{2,4} = 6,$$

Problema 2

$$y_1 = 0, y_2 = 2, y_3 = -6, y_4 = -1, \\ x_{1,2} = 4, x_{3,2} = 6, x_{3,4} = 4, x_{1,4} = 0, x_{3,1} = 12, x_{4,2} = 10,$$

Problema 3

$$y_1 = 1, y_2 = 5, y_3 = 7, y_4 = 3, y_5 = 0, y_6 = 12, \\ x_{1,2} = 8, x_{2,3} = 14, x_{4,3} = 6, x_{1,4} = 6, x_{1,5} = 0, x_{5,2} = 12, x_{3,6} = 4, x_{6,4} = 0, x_{5,6} = 12,$$

Prova 15 ...

Problema 1

$$y_1 = 2, y_2 = -2, y_3 = 4, y_4 = 0, \\ x_{2,1} = 10, x_{2,3} = 6, x_{4,3} = 12, x_{4,1} = 4, x_{1,3} = 14, x_{2,4} = 0,$$

Problema 2

$$y_1 = 4, y_2 = -2, y_3 = 0, y_4 = -7, \\ x_{2,1} = 10, x_{2,3} = 4, x_{4,3} = 4, x_{1,4} = 0, x_{3,1} = 8, x_{4,2} = 6,$$

Problema 3

$$y_1 = 14, y_2 = 10, y_3 = 6, y_4 = 10, y_5 = 8, y_6 = 0, \\ x_{2,1} = 8, x_{3,2} = 12, x_{3,4} = 4, x_{4,1} = 2, x_{1,5} = 0, x_{5,2} = 8, x_{6,3} = 6, x_{6,4} = 12, x_{6,5} = 0,$$

Prova 16 ...

Problema 1

$$y_1 = 3, y_2 = -5, y_3 = 0, y_4 = -2, \\ x_{1,2} = 0, x_{2,3} = 12, x_{4,3} = 2, x_{4,1} = 10, x_{3,1} = 12, x_{2,4} = 8,$$

Problema 2

$$y_1 = 0, y_2 = 3, y_3 = 13, y_4 = 8, \\ x_{1,2} = 14, x_{2,3} = 4, x_{4,3} = 14, x_{1,4} = 12, x_{3,1} = 0, x_{2,4} = 6,$$

Problema 3

$$y_1 = 3, y_2 = 7, y_3 = -4, y_4 = -9, y_5 = 0, y_6 = -6, \\ x_{1,2} = 6, x_{2,3} = 0, x_{4,3} = 6, x_{4,1} = 10, x_{5,1} = 12, x_{5,2} = 4, x_{6,3} = 0, x_{4,6} = 8, x_{6,5} = 6,$$

Prova 17 ...

Problema 1

$$y_1 = 4, y_2 = 2, y_3 = 0, y_4 = 8, \\ x_{2,1} = 4, x_{3,2} = 14, x_{3,4} = 14, x_{1,4} = 4, x_{3,1} = 12, x_{2,4} = 0,$$

Problema 2

$$y_1 = -2, y_2 = 8, y_3 = 5, y_4 = 0, \\ x_{1,2} = 12, x_{3,2} = 8, x_{4,3} = 6, x_{1,4} = 8, x_{3,1} = 0, x_{4,2} = 8,$$

Problema 3

$$y_1 = 4, y_2 = 0, y_3 = 3, y_4 = 6, y_5 = 9, y_6 = 2, \\ x_{2,1} = 12, x_{2,3} = 6, x_{3,4} = 2, x_{1,4} = 14, x_{1,5} = 2, x_{2,5} = 6, x_{3,6} = 0, x_{6,4} = 10, x_{6,5} = 0,$$

Prova 18 ...

Problema 1

$$y_1 = 10, y_2 = 7, y_3 = 0, y_4 = 4, \\ x_{2,1} = 2, x_{2,3} = 0, x_{3,4} = 6, x_{4,1} = 4, x_{3,1} = 14, x_{4,2} = 6,$$

Problema 2

$$y_1 = 2, y_2 = 0, y_3 = 5, y_4 = 7, \\ x_{2,1} = 4, x_{2,3} = 12, x_{3,4} = 14, x_{4,1} = 0, x_{1,3} = 8, x_{2,4} = 2,$$

Problema 3

$$y_1 = 5, y_2 = 2, y_3 = -1, y_4 = -4, y_5 = 0, y_6 = -7, \\ x_{2,1} = 12, x_{3,2} = 2, x_{4,3} = 8, x_{1,4} = 0, x_{5,1} = 8, x_{5,2} = 14, x_{6,3} = 10, x_{6,4} = 6, x_{6,5} = 0,$$

Prova 19 ...

Problema 1

$$y_1 = -4, y_2 = 2, y_3 = 0, y_4 = 4, \\ x_{1,2} = 10, x_{3,2} = 6, x_{3,4} = 14, x_{1,4} = 10, x_{1,3} = 4, x_{2,4} = 0,$$

Problema 2

$$y_1 = 6, y_2 = 0, y_3 = 2, y_4 = -6, \\ x_{2,1} = 14, x_{3,2} = 0, x_{4,3} = 12, x_{4,1} = 6, x_{3,1} = 8, x_{4,2} = 2,$$

Problema 3

$$y_1 = 15, y_2 = 11, y_3 = 5, y_4 = 19, y_5 = 14, y_6 = 0, \\ x_{2,1} = 14, x_{3,2} = 12, x_{3,4} = 8, x_{1,4} = 10, x_{5,1} = 0, x_{2,5} = 10, x_{6,3} = 8, x_{6,4} = 8, x_{5,6} = 0,$$

Prova 20 ...

Problema 1

$$y_1 = 11, y_2 = 0, y_3 = 6, y_4 = 5, \\ x_{2,1} = 6, x_{2,3} = 8, x_{4,3} = 0, x_{4,1} = 2, x_{3,1} = 2, x_{2,4} = 10,$$

Problema 2

$$y_1 = -3, y_2 = 8, y_3 = 4, y_4 = 0, \\ x_{2,1} = 0, x_{3,2} = 4, x_{4,3} = 12, x_{1,4} = 10, x_{1,3} = 10, x_{4,2} = 8,$$

Problema 3

$$y_1 = -1, y_2 = 0, y_3 = -3, y_4 = 5, y_5 = 5, y_6 = 8, \\ x_{2,1} = 0, x_{3,2} = 4, x_{3,4} = 2, x_{4,1} = 0, x_{1,5} = 6, x_{2,5} = 12, x_{3,6} = 12, x_{4,6} = 2, x_{5,6} = 14,$$

Prova 21 ...

Problema 1

$$y_1 = 9, y_2 = 11, y_3 = 0, y_4 = 4, \\ x_{1,2} = 4, x_{3,2} = 6, x_{3,4} = 10, x_{4,1} = 12, x_{3,1} = 10, x_{2,4} = 0,$$

Problema 2

$$y_1 = 0, y_2 = 3, y_3 = 6, y_4 = -3, \\ x_{1,2} = 4, x_{2,3} = 2, x_{4,3} = 14, x_{4,1} = 10, x_{1,3} = 8, x_{4,2} = 0,$$

Problema 3

$$y_1 = 2, y_2 = 5, y_3 = -4, y_4 = 0, y_5 = -3, y_6 = 0, \\ x_{1,2} = 6, x_{3,2} = 2, x_{3,4} = 2, x_{4,1} = 8, x_{5,1} = 8, x_{2,5} = 0, x_{3,6} = 6, x_{6,4} = 0, x_{5,6} = 12,$$

Prova 22 ...

Problema 1

$$y_1 = 0, y_2 = 4, y_3 = -5, y_4 = -8, \\ x_{1,2} = 10, x_{2,3} = 0, x_{4,3} = 6, x_{4,1} = 2, x_{3,1} = 14, x_{4,2} = 2,$$

Problema 2

$$y_1 = -4, y_2 = 0, y_3 = 5, y_4 = 2, \\ x_{1,2} = 2, x_{2,3} = 2, x_{4,3} = 10, x_{4,1} = 0, x_{1,3} = 4, x_{2,4} = 8,$$

Problema 3

$$y_1 = 6, y_2 = -6, y_3 = -1, y_4 = 0, y_5 = 0, y_6 = 5, \\ x_{2,1} = 4, x_{2,3} = 6, x_{4,3} = 0, x_{4,1} = 8, x_{5,1} = 12, x_{2,5} = 12, x_{3,6} = 14, x_{4,6} = 2, x_{5,6} = 0,$$

Prova 23 ...

Problema 1

$$y_1 = 0, y_2 = -2, y_3 = 6, y_4 = 4, \\ x_{2,1} = 2, x_{2,3} = 12, x_{4,3} = 12, x_{1,4} = 2, x_{1,3} = 0, x_{2,4} = 2,$$

Problema 2

$$y_1 = 11, y_2 = 0, y_3 = -4, y_4 = 6, \\ x_{2,1} = 6, x_{3,2} = 2, x_{3,4} = 8, x_{4,1} = 6, x_{1,3} = 0, x_{2,4} = 4,$$

Problema 3

$$y_1 = 3, y_2 = 0, y_3 = 5, y_4 = 0, y_5 = -4, y_6 = -9, \\ x_{2,1} = 10, x_{2,3} = 8, x_{4,3} = 10, x_{4,1} = 12, x_{5,1} = 6, x_{5,2} = 4, x_{3,6} = 0, x_{6,4} = 0, x_{6,5} = 4,$$

Prova 24 ...

Problema 1

$$y_1 = -3, y_2 = 2, y_3 = 0, y_4 = -6, \\ x_{1,2} = 10, x_{3,2} = 10, x_{4,3} = 12, x_{4,1} = 4, x_{1,3} = 8, x_{2,4} = 0,$$

Problema 2

$$y_1 = 0, y_2 = -3, y_3 = -6, y_4 = 4, \\ x_{2,1} = 8, x_{3,2} = 6, x_{3,4} = 4, x_{1,4} = 2, x_{3,1} = 10, x_{2,4} = 0,$$

Problema 3

$$y_1 = 2, y_2 = -4, y_3 = 5, y_4 = 8, y_5 = 2, y_6 = 0, \\ x_{2,1} = 2, x_{2,3} = 6, x_{3,4} = 4, x_{1,4} = 12, x_{5,1} = 0, x_{2,5} = 14, x_{6,3} = 12, x_{4,6} = 0, x_{6,5} = 6,$$

Prova 25 ...

Problema 1

$$y_1 = 0, y_2 = 1, y_3 = 4, y_4 = 6, \\ x_{1,2} = 0, x_{2,3} = 2, x_{3,4} = 6, x_{1,4} = 6, x_{1,3} = 12, x_{2,4} = 2,$$

Problema 2

$$y_1 = -3, y_2 = 5, y_3 = 0, y_4 = 4, \\ x_{1,2} = 14, x_{3,2} = 2, x_{3,4} = 8, x_{1,4} = 4, x_{1,3} = 14, x_{4,2} = 0,$$

Problema 3

$$y_1 = 4, y_2 = 2, y_3 = -2, y_4 = 0, y_5 = 8, y_6 = -4, \\ x_{2,1} = 6, x_{3,2} = 4, x_{3,4} = 2, x_{4,1} = 14, x_{1,5} = 12, x_{2,5} = 10, x_{6,3} = 8, x_{6,4} = 0, x_{6,5} = 0,$$

Prova 26 ...

Problema 1

$$y_1 = 4, y_2 = 2, y_3 = 0, y_4 = 4, \\ x_{2,1} = 12, x_{3,2} = 14, x_{3,4} = 12, x_{4,1} = 0, x_{3,1} = 12, x_{2,4} = 8,$$

Problema 2

$$y_1 = 0, y_2 = 0, y_3 = 5, y_4 = 9, \\ x_{2,1} = 0, x_{2,3} = 4, x_{3,4} = 8, x_{1,4} = 4, x_{1,3} = 14, x_{2,4} = 12,$$

Problema 3

$$y_1 = 4, y_2 = 0, y_3 = 3, y_4 = 1, y_5 = 4, y_6 = 9, \\ x_{1,2} = 0, x_{2,3} = 2, x_{4,3} = 10, x_{4,1} = 10, x_{1,5} = 0, x_{2,5} = 2, x_{3,6} = 10, x_{4,6} = 2, x_{5,6} = 6,$$

Prova 27 ...

Problema 1

$$y_1 = 0, y_2 = 4, y_3 = 3, y_4 = 10, \\ x_{1,2} = 6, x_{2,3} = 0, x_{3,4} = 14, x_{1,4} = 2, x_{1,3} = 4, x_{2,4} = 14,$$

Problema 2

$$y_1 = -5, y_2 = 2, y_3 = 0, y_4 = 4, \\ x_{1,2} = 10, x_{3,2} = 14, x_{3,4} = 6, x_{4,1} = 0, x_{1,3} = 2, x_{2,4} = 6,$$

Problema 3

$$y_1 = -4, y_2 = 12, y_3 = 5, y_4 = 0, y_5 = 8, y_6 = 3, \\ x_{1,2} = 6, x_{3,2} = 4, x_{4,3} = 14, x_{1,4} = 6, x_{1,5} = 0, x_{5,2} = 14, x_{6,3} = 14, x_{6,4} = 0, x_{6,5} = 10,$$

Prova 28 ...

Problema 1

$$y_1 = 0, y_2 = 2, y_3 = 0, y_4 = -4, \\ x_{1,2} = 14, x_{3,2} = 10, x_{4,3} = 2, x_{4,1} = 10, x_{3,1} = 0, x_{4,2} = 2,$$

Problema 2

$$y_1 = 4, y_2 = 6, y_3 = 9, y_4 = 0, \\ x_{1,2} = 2, x_{2,3} = 14, x_{4,3} = 2, x_{4,1} = 10, x_{3,1} = 0, x_{4,2} = 2,$$

Problema 3

$$y_1 = 10, y_2 = 13, y_3 = 0, y_4 = 2, y_5 = 7, y_6 = 5, \\ x_{1,2} = 6, x_{3,2} = 14, x_{3,4} = 4, x_{1,4} = 0, x_{5,1} = 10, x_{2,5} = 0, x_{3,6} = 4, x_{4,6} = 6, x_{6,5} = 8,$$

Prova 29 ...

Problema 1

$$y_1 = 0, y_2 = 6, y_3 = 3, y_4 = 11, \\ x_{1,2} = 14, x_{3,2} = 8, x_{4,3} = 0, x_{1,4} = 12, x_{1,3} = 14, x_{2,4} = 6,$$

Problema 2

$$y_1 = 6, y_2 = 3, y_3 = -3, y_4 = 0, \\ x_{2,1} = 6, x_{3,2} = 10, x_{4,3} = 0, x_{4,1} = 12, x_{3,1} = 10, x_{4,2} = 4,$$

Problema 3

$$y_1 = 0, y_2 = 0, y_3 = 2, y_4 = -5, y_5 = 4, y_6 = 0, \\ x_{2,1} = 0, x_{2,3} = 8, x_{3,4} = 0, x_{4,1} = 2, x_{1,5} = 6, x_{2,5} = 6, x_{6,3} = 4, x_{4,6} = 8, x_{6,5} = 2,$$

Prova 30 ...

Problema 1

$$y_1 = 5, y_2 = -2, y_3 = 8, y_4 = 0, \\ x_{2,1} = 6, x_{3,2} = 0, x_{4,3} = 6, x_{4,1} = 14, x_{1,3} = 12, x_{2,4} = 2,$$

Problema 2

$$y_1 = 6, y_2 = 12, y_3 = 0, y_4 = 3, \\ x_{1,2} = 4, x_{2,3} = 0, x_{3,4} = 8, x_{4,1} = 10, x_{3,1} = 10, x_{4,2} = 8,$$

Problema 3

$$y_1 = 0, y_2 = 2, y_3 = 7, y_4 = 3, y_5 = -3, y_6 = 9, \\ x_{1,2} = 8, x_{2,3} = 10, x_{3,4} = 0, x_{1,4} = 12, x_{1,5} = 0, x_{5,2} = 2, x_{3,6} = 4, x_{4,6} = 4, x_{5,6} = 14,$$

Prova 31 ...

Problema 1

$$y_1 = -2, y_2 = 3, y_3 = 5, y_4 = 0, \\ x_{1,2} = 2, x_{3,2} = 0, x_{4,3} = 10, x_{1,4} = 6, x_{1,3} = 4, x_{4,2} = 14,$$

Problema 2

$$y_1 = -2, y_2 = 6, y_3 = 3, y_4 = 0, \\ x_{1,2} = 4, x_{3,2} = 4, x_{4,3} = 8, x_{1,4} = 8, x_{1,3} = 10, x_{2,4} = 0,$$

Problema 3

$$y_1 = 2, y_2 = 5, y_3 = 0, y_4 = -3, y_5 = 8, y_6 = 5, \\ x_{1,2} = 8, x_{2,3} = 0, x_{4,3} = 4, x_{4,1} = 4, x_{1,5} = 12, x_{2,5} = 12, x_{3,6} = 12, x_{6,4} = 0, x_{6,5} = 2,$$

Prova 32 ...

Problema 1

$$y_1 = 2, y_2 = 8, y_3 = 0, y_4 = 5, \\ x_{1,2} = 2, x_{2,3} = 0, x_{3,4} = 12, x_{1,4} = 2, x_{3,1} = 2, x_{4,2} = 6,$$

Problema 2

$$y_1 = 4, y_2 = 0, y_3 = 9, y_4 = -4, \\ x_{2,1} = 12, x_{2,3} = 10, x_{3,4} = 0, x_{4,1} = 2, x_{1,3} = 12, x_{4,2} = 14,$$

Problema 3

$$y_1 = 0, y_2 = -5, y_3 = 5, y_4 = 2, y_5 = -4, y_6 = -2, \\ x_{2,1} = 4, x_{2,3} = 12, x_{4,3} = 8, x_{1,4} = 14, x_{5,1} = 8, x_{2,5} = 0, x_{3,6} = 0, x_{6,4} = 8, x_{5,6} = 12,$$

Prova 33 ...

Problema 1

$$y_1 = 0, y_2 = 2, y_3 = -3, y_4 = 5, \\ x_{1,2} = 6, x_{3,2} = 10, x_{3,4} = 12, x_{1,4} = 6, x_{3,1} = 4, x_{2,4} = 0,$$

Problema 2

$$y_1 = 4, y_2 = 0, y_3 = -6, y_4 = -2, \\ x_{2,1} = 10, x_{3,2} = 8, x_{3,4} = 4, x_{1,4} = 0, x_{3,1} = 6, x_{4,2} = 4,$$

Problema 3

$$y_1 = -7, y_2 = 3, y_3 = 0, y_4 = -9, y_5 = 3, y_6 = -3, \\ x_{1,2} = 2, x_{3,2} = 4, x_{4,3} = 10, x_{4,1} = 12, x_{5,1} = 0, x_{5,2} = 0, x_{6,3} = 14, x_{4,6} = 14, x_{6,5} = 10,$$

Prova 34 ...

Problema 1

$$y_1 = 2, y_2 = -6, y_3 = 0, y_4 = -4, \\ x_{1,2} = 0, x_{2,3} = 4, x_{4,3} = 12, x_{4,1} = 8, x_{3,1} = 14, x_{2,4} = 14,$$

Problema 2

$$y_1 = -2, y_2 = 0, y_3 = 2, y_4 = -4, \\ x_{1,2} = 6, x_{2,3} = 12, x_{4,3} = 14, x_{4,1} = 14, x_{1,3} = 14, x_{2,4} = 0,$$

Problema 3

$$y_1 = -6, y_2 = 0, y_3 = -6, y_4 = 0, y_5 = 12, y_6 = 6, \\ x_{1,2} = 2, x_{3,2} = 10, x_{3,4} = 8, x_{1,4} = 8, x_{5,1} = 0, x_{2,5} = 2, x_{6,3} = 0, x_{4,6} = 8, x_{6,5} = 6,$$

Prova 35 ...

Problema 1

$$y_1 = 0, y_2 = -3, y_3 = 0, y_4 = 4, \\ x_{2,1} = 8, x_{2,3} = 12, x_{3,4} = 4, x_{1,4} = 2, x_{1,3} = 0, x_{2,4} = 10,$$

Problema 2

$$y_1 = 0, y_2 = 4, y_3 = -4, y_4 = 2, \\ x_{1,2} = 4, x_{3,2} = 2, x_{3,4} = 12, x_{1,4} = 4, x_{1,3} = 0, x_{4,2} = 12,$$

Problema 3

$$y_1 = 9, y_2 = 3, y_3 = 1, y_4 = 3, y_5 = 0, y_6 = -2, \\ x_{2,1} = 2, x_{2,3} = 0, x_{3,4} = 12, x_{4,1} = 10, x_{1,5} = 0, x_{5,2} = 14, x_{6,3} = 8, x_{6,4} = 4, x_{6,5} = 14,$$

Prova 36 ...

Problema 1

$$y_1 = 10, y_2 = 0, y_3 = 5, y_4 = 8, \\ x_{2,1} = 12, x_{2,3} = 14, x_{3,4} = 10, x_{4,1} = 4, x_{3,1} = 12, x_{2,4} = 0,$$

Problema 2

$$y_1 = 0, y_2 = 3, y_3 = -2, y_4 = 1, \\ x_{1,2} = 4, x_{3,2} = 6, x_{3,4} = 10, x_{4,1} = 0, x_{3,1} = 12, x_{4,2} = 8,$$

Problema 3

$$y_1 = 0, y_2 = 3, y_3 = 9, y_4 = 13, y_5 = 7, y_6 = 17, \\ x_{1,2} = 8, x_{2,3} = 8, x_{3,4} = 4, x_{1,4} = 8, x_{1,5} = 12, x_{2,5} = 4, x_{3,6} = 0, x_{4,6} = 6, x_{6,5} = 0,$$

Prova 37 ...

Problema 1

$$y_1 = -5, y_2 = 6, y_3 = 0, y_4 = -2, \\ x_{2,1} = 0, x_{3,2} = 2, x_{4,3} = 4, x_{1,4} = 4, x_{1,3} = 12, x_{4,2} = 10,$$

Problema 2

$$y_1 = 0, y_2 = -5, y_3 = 3, y_4 = 9, \\ x_{2,1} = 12, x_{2,3} = 6, x_{3,4} = 2, x_{1,4} = 4, x_{1,3} = 10, x_{4,2} = 0,$$

Problema 3

$$y_1 = -8, y_2 = -3, y_3 = 3, y_4 = 0, y_5 = -9, y_6 = -2, \\ x_{1,2} = 12, x_{2,3} = 10, x_{4,3} = 2, x_{4,1} = 0, x_{5,1} = 0, x_{5,2} = 2, x_{6,3} = 14, x_{6,4} = 2, x_{5,6} = 12,$$

Prova 38 ...

Problema 1

$$y_1 = -3, y_2 = 0, y_3 = -5, y_4 = 4, \\ x_{1,2} = 8, x_{3,2} = 14, x_{3,4} = 14, x_{4,1} = 0, x_{3,1} = 4, x_{2,4} = 2,$$

Problema 2

$$y_1 = 0, y_2 = -7, y_3 = -3, y_4 = 3, \\ x_{2,1} = 4, x_{2,3} = 6, x_{3,4} = 6, x_{1,4} = 6, x_{3,1} = 8, x_{4,2} = 0,$$

Problema 3

$$y_1 = 2, y_2 = 8, y_3 = 5, y_4 = 15, y_5 = 0, y_6 = 9, \\ x_{1,2} = 12, x_{3,2} = 2, x_{3,4} = 10, x_{4,1} = 0, x_{5,1} = 14, x_{5,2} = 6, x_{3,6} = 8, x_{6,4} = 2, x_{6,5} = 0,$$

Prova 39 ...

Problema 1

$$y_1 = 0, y_2 = 6, y_3 = -2, y_4 = 2, \\ x_{1,2} = 12, x_{2,3} = 0, x_{3,4} = 12, x_{1,4} = 14, x_{3,1} = 2, x_{4,2} = 6,$$

Problema 2

$$y_1 = 0, y_2 = 12, y_3 = 3, y_4 = 6, \\ x_{2,1} = 0, x_{3,2} = 6, x_{3,4} = 6, x_{1,4} = 2, x_{1,3} = 14, x_{4,2} = 12,$$

Problema 3

$$y_1 = 12, y_2 = 0, y_3 = 4, y_4 = 6, y_5 = 5, y_6 = 10, \\ x_{1,2} = 0, x_{2,3} = 4, x_{3,4} = 4, x_{4,1} = 2, x_{5,1} = 8, x_{2,5} = 4, x_{3,6} = 4, x_{4,6} = 14, x_{6,5} = 0,$$

Prova 40 ...

Problema 1

$$y_1 = 0, y_2 = 11, y_3 = 3, y_4 = 6, \\ x_{2,1} = 0, x_{3,2} = 10, x_{3,4} = 2, x_{1,4} = 12, x_{1,3} = 14, x_{4,2} = 10,$$

Problema 2

$$y_1 = -1, y_2 = -5, y_3 = 2, y_4 = 0, \\ x_{2,1} = 12, x_{2,3} = 12, x_{4,3} = 14, x_{1,4} = 0, x_{1,3} = 8, x_{2,4} = 10,$$

Problema 3

$$y_1 = 6, y_2 = 2, y_3 = 0, y_4 = 2, y_5 = 11, y_6 = -3, \\ x_{1,2} = 0, x_{3,2} = 14, x_{3,4} = 6, x_{4,1} = 10, x_{1,5} = 10, x_{2,5} = 10, x_{6,3} = 8, x_{6,4} = 14, x_{5,6} = 0,$$

Prova 41 ...

Problema 1

$$y_1 = 6, y_2 = -2, y_3 = 0, y_4 = 0, \\ x_{2,1} = 2, x_{2,3} = 2, x_{4,3} = 0, x_{4,1} = 8, x_{3,1} = 14, x_{2,4} = 14,$$

Problema 2

$$y_1 = 10, y_2 = 0, y_3 = 14, y_4 = 6, \\ x_{1,2} = 0, x_{2,3} = 14, x_{4,3} = 10, x_{4,1} = 2, x_{1,3} = 2, x_{2,4} = 12,$$

Problema 3

$$y_1 = 2, y_2 = 7, y_3 = 3, y_4 = 0, y_5 = -2, y_6 = -5, \\ x_{1,2} = 4, x_{3,2} = 14, x_{4,3} = 8, x_{4,1} = 12, x_{5,1} = 10, x_{5,2} = 8, x_{3,6} = 0, x_{4,6} = 0, x_{6,5} = 4,$$

Prova 42 ...

Problema 1

$$y_1 = 3, y_2 = 3, y_3 = 0, y_4 = -2, \\ x_{2,1} = 0, x_{3,2} = 6, x_{4,3} = 10, x_{4,1} = 12, x_{3,1} = 14, x_{4,2} = 10,$$

Problema 2

$$y_1 = 0, y_2 = 4, y_3 = 8, y_4 = 2, \\ x_{1,2} = 14, x_{2,3} = 10, x_{3,4} = 0, x_{1,4} = 6, x_{1,3} = 4, x_{4,2} = 4,$$

Problema 3

$$y_1 = -6, y_2 = -7, y_3 = -3, y_4 = 0, y_5 = -3, y_6 = 3, \\ x_{2,1} = 0, x_{2,3} = 14, x_{4,3} = 0, x_{1,4} = 10, x_{1,5} = 8, x_{2,5} = 6, x_{3,6} = 2, x_{4,6} = 2, x_{5,6} = 6,$$

Prova 43 ...

Problema 1

$$y_1 = 0, y_2 = 4, y_3 = -3, y_4 = 6, \\ x_{1,2} = 2, x_{3,2} = 6, x_{4,3} = 0, x_{1,4} = 14, x_{3,1} = 2, x_{2,4} = 10,$$

Problema 2

$$y_1 = -3, y_2 = 5, y_3 = 8, y_4 = 0, \\ x_{1,2} = 2, x_{2,3} = 8, x_{4,3} = 14, x_{1,4} = 2, x_{3,1} = 0, x_{4,2} = 6,$$

Problema 3

$$y_1 = 4, y_2 = 9, y_3 = 4, y_4 = 2, y_5 = 0, y_6 = -3, \\ x_{1,2} = 6, x_{3,2} = 2, x_{4,3} = 2, x_{4,1} = 2, x_{5,1} = 8, x_{2,5} = 0, x_{6,3} = 12, x_{4,6} = 0, x_{6,5} = 14,$$

Prova 44 ...

Problema 1

$$y_1 = 0, y_2 = -5, y_3 = 5, y_4 = 2, \\ x_{2,1} = 2, x_{2,3} = 4, x_{4,3} = 2, x_{1,4} = 8, x_{1,3} = 10, x_{4,2} = 0,$$

Problema 2

$$y_1 = 6, y_2 = -2, y_3 = 0, y_4 = 10, \\ x_{1,2} = 0, x_{2,3} = 6, x_{3,4} = 12, x_{1,4} = 8, x_{3,1} = 2, x_{2,4} = 4,$$

Problema 3

$$y_1 = 2, y_2 = 5, y_3 = 8, y_4 = 10, y_5 = 0, y_6 = 6, \\ x_{2,1} = 0, x_{2,3} = 10, x_{3,4} = 8, x_{1,4} = 6, x_{5,1} = 6, x_{5,2} = 4, x_{3,6} = 0, x_{6,4} = 14, x_{5,6} = 4,$$

Prova 45 ...

Problema 1

$$y_1 = 3, y_2 = -6, y_3 = 0, y_4 = 6, \\ x_{1,2} = 0, x_{2,3} = 12, x_{3,4} = 8, x_{1,4} = 2, x_{3,1} = 8, x_{2,4} = 4,$$

Problema 2

$$y_1 = 7, y_2 = 10, y_3 = 0, y_4 = 4, \\ x_{1,2} = 2, x_{2,3} = 0, x_{3,4} = 8, x_{4,1} = 2, x_{3,1} = 10, x_{4,2} = 12,$$

Problema 3

$$y_1 = 6, y_2 = 8, y_3 = 10, y_4 = 0, y_5 = 10, y_6 = -3, \\ x_{1,2} = 12, x_{2,3} = 4, x_{3,4} = 0, x_{4,1} = 8, x_{1,5} = 12, x_{2,5} = 8, x_{3,6} = 0, x_{6,4} = 12, x_{6,5} = 10,$$

Prova 46 ...

Problema 1

$$y_1 = 0, y_2 = -3, y_3 = -5, y_4 = 2, \\ x_{2,1} = 2, x_{3,2} = 8, x_{4,3} = 0, x_{1,4} = 4, x_{3,1} = 8, x_{2,4} = 12,$$

Problema 2

$$y_1 = 0, y_2 = -2, y_3 = 5, y_4 = 3, \\ x_{2,1} = 12, x_{2,3} = 2, x_{4,3} = 14, x_{1,4} = 10, x_{3,1} = 0, x_{2,4} = 14,$$

Problema 3

$$y_1 = 4, y_2 = 0, y_3 = 4, y_4 = -1, y_5 = 6, y_6 = 0, \\ x_{2,1} = 2, x_{2,3} = 12, x_{4,3} = 2, x_{4,1} = 12, x_{1,5} = 8, x_{5,2} = 0, x_{6,3} = 4, x_{4,6} = 0, x_{6,5} = 12,$$

Prova 47 ...

Problema 1

$$y_1 = 3, y_2 = -7, y_3 = -2, y_4 = 0, \\ x_{2,1} = 2, x_{2,3} = 2, x_{3,4} = 14, x_{4,1} = 12, x_{1,3} = 0, x_{2,4} = 10,$$

Problema 2

$$y_1 = -3, y_2 = 0, y_3 = 3, y_4 = -1, \\ x_{1,2} = 2, x_{2,3} = 12, x_{4,3} = 6, x_{1,4} = 4, x_{1,3} = 6, x_{4,2} = 0,$$

Problema 3

$$y_1 = 5, y_2 = 7, y_3 = 11, y_4 = 8, y_5 = 0, y_6 = 3, \\ x_{1,2} = 12, x_{2,3} = 4, x_{4,3} = 12, x_{1,4} = 10, x_{5,1} = 10, x_{5,2} = 6, x_{3,6} = 0, x_{4,6} = 0, x_{5,6} = 10,$$

Prova 48 ...

Problema 1

$$y_1 = -5, y_2 = -9, y_3 = 0, y_4 = 4, \\ x_{2,1} = 4, x_{2,3} = 2, x_{3,4} = 6, x_{4,1} = 0, x_{1,3} = 10, x_{2,4} = 6,$$

Problema 2

$$y_1 = 0, y_2 = -2, y_3 = 4, y_4 = -6, \\ x_{1,2} = 0, x_{2,3} = 14, x_{4,3} = 8, x_{4,1} = 8, x_{1,3} = 6, x_{4,2} = 6,$$

Problema 3

$$y_1 = -2, y_2 = -2, y_3 = -4, y_4 = 0, y_5 = 5, y_6 = 3, \\ x_{1,2} = 0, x_{3,2} = 8, x_{3,4} = 12, x_{1,4} = 8, x_{1,5} = 2, x_{5,2} = 0, x_{3,6} = 14, x_{4,6} = 8, x_{6,5} = 6,$$

Prova 49 ...

Problema 1

$$y_1 = 2, y_2 = 10, y_3 = 5, y_4 = 0, \\ x_{1,2} = 8, x_{3,2} = 6, x_{4,3} = 14, x_{4,1} = 2, x_{1,3} = 2, x_{2,4} = 0,$$

Problema 2

$$y_1 = -3, y_2 = 2, y_3 = 2, y_4 = 0, \\ x_{1,2} = 8, x_{2,3} = 0, x_{4,3} = 10, x_{1,4} = 6, x_{1,3} = 14, x_{4,2} = 10,$$

Problema 3

$$y_1 = -3, y_2 = 0, y_3 = 5, y_4 = 2, y_5 = 4, y_6 = 0, \\ x_{1,2} = 12, x_{2,3} = 10, x_{4,3} = 14, x_{4,1} = 0, x_{1,5} = 4, x_{2,5} = 14, x_{6,3} = 0, x_{6,4} = 8, x_{6,5} = 10,$$

Prova 50 ...

Problema 1

$$y_1 = 4, y_2 = 0, y_3 = 2, y_4 = -6, \\ x_{2,1} = 14, x_{2,3} = 6, x_{4,3} = 14, x_{1,4} = 0, x_{3,1} = 6, x_{4,2} = 10,$$

Problema 2

$$y_1 = -3, y_2 = 5, y_3 = -8, y_4 = 0,$$
$$x_{1,2} = 2, x_{2,3} = 0, x_{3,4} = 6, x_{1,4} = 4, x_{3,1} = 10, x_{4,2} = 2,$$

Problema 3

$$y_1 = 4, y_2 = 6, y_3 = 0, y_4 = -6, y_5 = 10, y_6 = -3,$$
$$x_{1,2} = 2, x_{3,2} = 4, x_{4,3} = 6, x_{4,1} = 10, x_{1,5} = 10, x_{2,5} = 6, x_{6,3} = 0, x_{4,6} = 2, x_{5,6} = 0,$$