

### Sistemas de 4x4

infinitas soluciones

$$5x + 3y + z + 2w = 1$$

$$2x - y + 3z + w = 2$$

$$-3x + 2y - 2z + 3w = 3$$

$$2x + 5y - z + 5w = 4$$

Solución única

$$36 + 16B - 6D + 4E + F = 0$$

$$64 + B - 8D + E + F = 0$$

$$4 + 16B + 2D - 4E + F = 0$$

$$64 + 9B + 8D - 3E + F = 0$$

$$B = 4, D = -4, E = -8, F = -92.$$

Sin solución

$$x + y + z - w = 2$$

$$2x - y + w = 5$$

$$3x + z + w = 1$$

$$2x + 2y + 2z - w = 3$$

## Sistemas de 5x5

$$\begin{cases} 2x - y + 4z + t - u = 7 \\ -x + 3y - 2z - t + 2u = 1 \\ 5x + y + 3z - 4t + u = 33 \\ 3x - 2y - 2z - 2t + 3u = 24 \\ -4x - y - 5z + 3t - 4u = -49 \end{cases}$$

$$\begin{aligned} x &= 1 \\ y &= -2 \\ z &= 3 \\ t &= -4 \\ u &= 5 \end{aligned}$$

infinitas soluciones

$$x + y + z + w + t = 2$$

$$2x + 2y + 2z + 2w + 2t = 4$$

$$6x - 3y + 8z + 7w - t = 3$$

$$2x + 5y + 4z + 3w - 12t = -13$$

$$4x + 9y - 3z + 5w - t = 8$$

sin solución

$$x + y + z + w + t = 2$$

$$2x + 3y + 5z + 2w + 6t = 40$$

$$3x + 4y + 6z + 3w + 7t = 2$$

$$2x + 5y + 4z + 3w - 12t = -13$$

$$4x + 9y - 3z + 5w - t = 8$$

### Sistemas de 6x6

$$\begin{array}{rcccccc} +6x_1 & -9x_2 & +3x_3 & -7x_4 & -8x_5 & -6x_6 & = & -99 \\ -3x_1 & -8x_2 & -6x_3 & -5x_4 & -9x_5 & -3x_6 & = & 0 \\ +2x_1 & +2x_2 & -8x_3 & +4x_4 & +5x_5 & -6x_6 & = & +88 \\ +7x_1 & -4x_2 & -2x_3 & +5x_4 & -9x_5 & +3x_6 & = & -72 \\ +4x_1 & -7x_2 & +1x_3 & +8x_4 & -5x_5 & +8x_6 & = & -29 \\ -8x_1 & +5x_2 & -7x_3 & +1x_4 & +6x_5 & +9x_6 & = & +83 \end{array}$$

solución :     -8         -3         -4         +6         +6         -4

### Sistemas de 7x7

$$\begin{array}{rccccccc} -7x_1 & +9x_2 & -2x_3 & -2x_4 & +5x_5 & +4x_6 & -5x_7 & = & -109 \\ -3x_1 & -8x_2 & +2x_3 & +6x_4 & +6x_5 & -1x_6 & +6x_7 & = & +134 \\ +6x_1 & -1x_2 & +2x_3 & -2x_4 & +8x_5 & -8x_6 & +2x_7 & = & -86 \\ +8x_1 & -1x_2 & -2x_3 & -6x_4 & +4x_5 & +5x_6 & -4x_7 & = & -148 \\ -2x_1 & -1x_2 & +1x_3 & -7x_4 & +3x_5 & +9x_6 & -4x_7 & = & -30 \\ -3x_1 & -6x_2 & -5x_3 & -2x_4 & +8x_5 & +3x_6 & +8x_7 & = & +33 \\ -7x_1 & +4x_2 & +2x_3 & -6x_4 & +8x_5 & +3x_6 & +6x_7 & = & +16 \end{array}$$

### Sistemas de 8x8

$$\begin{array}{rcccccccc} -5x_1 & +7x_2 & +8x_3 & +8x_4 & +2x_5 & +2x_6 & +6x_7 & -8x_8 & = & -145 \\ +6x_1 & +6x_2 & +5x_3 & +5x_4 & +2x_5 & +4x_6 & +4x_7 & -7x_8 & = & -8 \\ +2x_1 & -1x_2 & +8x_3 & -3x_4 & +4x_5 & +1x_6 & +8x_7 & -5x_8 & = & +47 \\ -7x_1 & -3x_2 & -2x_3 & +3x_4 & +1x_5 & +2x_6 & -3x_7 & -5x_8 & = & -16 \\ +6x_1 & -2x_2 & +8x_3 & +8x_4 & +1x_5 & -8x_6 & -5x_7 & -6x_8 & = & -30 \\ -2x_1 & -7x_2 & +2x_3 & -5x_4 & -2x_5 & -4x_6 & +5x_7 & +9x_8 & = & +20 \\ -3x_1 & +4x_2 & -9x_3 & +2x_4 & -6x_5 & +7x_6 & -2x_7 & -7x_8 & = & -10 \\ -2x_1 & -5x_2 & -8x_3 & -5x_4 & +4x_5 & -1x_6 & -5x_7 & -7x_8 & = & +97 \end{array}$$