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[> restart
[> Sistema := diff(x1(t), t) = 2·x1(t) + 3·x2(t), diff(x2(t), t) = x1(t) + 4·x2(t) : Sistema1;
      Sistema2

```

$$\begin{aligned}\frac{d}{dt} x_1(t) &= 2 x_1(t) + 3 x_2(t) \\ \frac{d}{dt} x_2(t) &= x_1(t) + 4 x_2(t)\end{aligned}\tag{1}$$

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[> AA := array([ [2, 3], [1, 4] ])

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$$AA := \begin{bmatrix} 2 & 3 \\ 1 & 4 \end{bmatrix}\tag{2}$$

```

[> II := array([ [1, 0], [0, 1] ])

```

$$II := \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}\tag{3}$$

```

[> with(inttrans) :
[> with(linalg) :
[> MatExp := map(convert, map(invlaplace, inverse(evalm(s·II - AA)), s, t), exp)

```

$$MatExp := \begin{bmatrix} \frac{3}{4} e^t + \frac{1}{4} e^{5t} & \frac{3}{4} e^{5t} - \frac{3}{4} e^t \\ \frac{1}{4} e^{5t} - \frac{1}{4} e^t & \frac{1}{4} e^t + \frac{3}{4} e^{5t} \end{bmatrix}\tag{4}$$

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[>

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