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> restart: with(LinearAlgebra):
> A := Matrix([ [1, -1, 0], [0, 1/2, 0], [-3/4, 7/4, 1/4] ])

```

$$A := \begin{bmatrix} 1 & -1 & 0 \\ 0 & \frac{1}{2} & 0 \\ -\frac{3}{4} & \frac{7}{4} & \frac{1}{4} \end{bmatrix} \quad (1)$$

```

> J, Q := JordanForm(A, output = ['J','Q'])

```

$$J, Q := \begin{bmatrix} 1 & 0 & 0 \\ 0 & \frac{1}{2} & 0 \\ 0 & 0 & \frac{1}{4} \end{bmatrix}, \begin{bmatrix} \frac{1}{3} & 2 & 0 \\ 0 & 1 & 0 \\ -\frac{1}{3} & 1 & -\frac{2}{3} \end{bmatrix} \quad (2)$$

```

> cosD := Matrix([ [ (cos(Pi*J[1, 1])), 0, 0], [0, (cos(Pi*J[2, 2])), 0], [0, 0, (cos(Pi*J[3, 3]))] ]);

```

$$\cos D := \begin{bmatrix} -1 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & \frac{\sqrt{2}}{2} \end{bmatrix} \quad (3)$$

```

> result := Q • cosD • MatrixInverse(Q)

```

$$\text{result} := \begin{bmatrix} -1 & 2 & 0 \\ 0 & 0 & 0 \\ 1 + \frac{\sqrt{2}}{2} & -2 - \frac{3\sqrt{2}}{2} & \frac{\sqrt{2}}{2} \end{bmatrix} \quad (4)$$

```

> # Et voila
>

```