Aurkitu 5 akatsak ondoko Mathematikako sarreretan:

$B=\begin{pmatrix}3&0&0\\0&1&1\\0&1&1\end{pmatrix}$ matrizea ortogolaki diagonalizatu:

```
B = {{3, 0, 0}, {0, 1, 1}, {0, 1, 1}} // MatrixForm
                                        |forma de matri
```

```
{{3, 0, 0}, {0, 1, 1}, {0, 1, 1}}
```

```
pol = Det[B - x * IdentityMatrix]
      |determinante |matriz identidad
```

$$(3 - x)\left(-2x + x^2\right)$$

```
CharacteristicPolynomial[B, x]
|polinomio característico
```

$$-6x + 5x^2 - x^3$$

```
s = Eigenvectors[B]
    |autovectores
```

```
{{3, 2, 0}, {{1, 0, 0}, {0, 1, 1}, {0, -1, 1}}}
```

```
von = Orthogonalize[s[2]];
      |ortogonaliza
p = Transpose[von];
    |transposición
MatrixForm[p]
|forma de matriz
```

$$\begin{pmatrix}1&0&0\\0&\frac{1}{\sqrt{2}}&-\frac{1}{\sqrt{2}}\\0&\frac{1}{\sqrt{2}}&\frac{1}{\sqrt{2}}\end{pmatrix}$$

```
d = Transpose[p] * B * p
    |transposición
```

```
{{3, 0, 0}, {0, 2, 0}, {0, 0, 0}}
```