```
> restart : with(LinearAlgebra) : with(plots) : with(plottools) : assume(k,
      'integer') :
> A := Matrix([[8/10, 3/10], [2/10, 7/10]]) :
> J, Q := JordanForm(A, output = ['J', 'Q']) :
> J_iter := MatrixPower(J, n) :
> A_iter := Q . J_iter . MatrixInverse(Q)
```

$$A\_iter := \begin{bmatrix} \frac{3}{5} + \frac{2\left(\frac{1}{2}\right)^n}{5} & \frac{3}{5} - \frac{3\left(\frac{1}{2}\right)^n}{5} \\ \frac{2}{5} - \frac{2\left(\frac{1}{2}\right)^n}{5} & \frac{2}{5} + \frac{3\left(\frac{1}{2}\right)^n}{5} \end{bmatrix} \quad (1)$$

```
> # Bijvraag
> A := Matrix([[a, b], [1 - a, 1 - b]]) :
> J, Q := JordanForm(A, output = ['J', 'Q'])
```

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

```
> # So first col is the one we need
> solve({0.6 = -b/(a-b-1), 0.4 = (a-1)/(a-b-1)})
```

$$\{a = a, b = -1.500000000\,a + 1.500000000\} \quad (3)$$

```
>
```