

$$\text{In[*]:= Inverse}\left[s * \begin{pmatrix} 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} - \begin{pmatrix} 0 & 1 & 0 & 0 & -1 & 0 \\ -1 & 0 & 0 & 0 & 0 & -1 \\ 0 & 0 & -0.811 & 1 & -1 & 0 \\ 0 & 0 & -1 & 0 & 0 & -1 \\ 1 & 0 & 1 & 0 & 0 & 1 \\ 0 & 1 & 0 & 1 & -1 & 0 \\ 0 & 0 & 0 & 0.637 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & -1 \end{pmatrix}\right] // \text{MatrixForm}$$

Out[\*]//MatrixForm=

$\frac{0.810901 + 3.31528 s + 6.8657 s^2 + 8.09064 s^3 + 6.6219 s^4 + 1.811 s^5 + s^6}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{1.6219 s + 4.46864 s^2 + 4.6219 s^3 + 1.811 s^4 + s^5}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{s + 0.189099 s^2 - s^3 - s^4}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{-1 - 2.622 s - 4.622 s^2 - 3 s^3}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{-1 - 1.811 s - 3.46864 s^2 - 3.6219 s^3 - 1.811 s^4 - s^5}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{-0.810901 - 3.31528 s - 5.2438 s^2 - 3.622 s^3 - 2 s^4}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{1.273 + 2.06481 s + 3.819 s^2}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$
$\frac{-1.6219 s - 4.46864 s^2 - 4.6219 s^3 - 1.811 s^4 - s^5}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{0.811 + 4.12628 s + 6.8657 s^2 + 8.09064 s^3 + 6.6219 s^4 + 1.811 s^5 + s^6}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{1 + 2.6218 s + 3 s^2 + 3 s^3}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{0. + s + 0.189 s^2 - 1.811 s^3 - s^4}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{0.811 + 4.12628 s + 5.2438 s^2 + 3.622 s^3 + 2 s^4}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{-1. - 1.8109 s - 2.65764 s^2 - 3.6219 s^3 - 1.811 s^4 - s^5}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{0. - 1.273 s + 1.0324 s^2 + 1.273 s^3}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$
$\frac{s + 0.189099 s^2 - s^3 - s^4}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{-1 - 2.6218 s - 3 s^2 - 3 s^3}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{2 s + 5.2436 s^2 + 5 s^3 + 5.8109 s^4 + s^5 + s^6}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{3 s^2 + 3 s^3 + s^4 + s^5}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{-1 - 2.6218 s - 2 s^2 - 2.8109 s^3 - s^4 - s^5}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{-2 s - 2.8109 s^2 - 2 s^3 - 2 s^4}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{-3.819 s^2 - 1.273 s^4}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$
$\frac{1 + 2.622 s + 4.622 s^2 + 3 s^3}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{0. + s + 0.189 s^2 - 1.811 s^3 - s^4}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{-3 s^2 - 3 s^3 - s^4 - s^5}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{2 s + 5.244 s^2 + 8.244 s^3 + 5.811 s^4 + 1.811 s^5 + s^6}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{2 s + 2.811 s^2 + 2.811 s^3 + 2 s^4}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{-1 - 2.622 s - 3.622 s^2 - 2.811 s^3 - 1.811 s^4 - s^5}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{-2.546 s - 4.12961 s^2 - 6.365 s^3 - 1.0324 s^4 - 1.273 s^5}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$
$\frac{1 + 1.811 s + 3.46864 s^2 + 3.6219 s^3 + 1.811 s^4 + s^5}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{0.811 + 4.12628 s + 5.2438 s^2 + 3.622 s^3 + 2 s^4}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{1 + 2.6218 s + 2 s^2 + 2.8109 s^3 + s^4 + s^5}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{2 s + 2.811 s^2 + 2.811 s^3 + 2 s^4}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{0.811 + 5.12628 s + 7.0548 s^2 + 7.09064 s^3 + 5.6219 s^4 + 1.811 s^5 + s^6}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{-1 - s + 0.657641 s^2 + 1.6219 s^3 + 1.811 s^4 + s^5}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{-2.546 s - 1.0324 s^2 - 2.546 s^3}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$
$\frac{-0.810901 - 3.31528 s - 5.2438 s^2 - 3.622 s^3 - 2 s^4}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{1. + 1.8109 s + 2.65764 s^2 + 3.6219 s^3 + 1.811 s^4 + s^5}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{-2 s - 2.8109 s^2 - 2 s^3 - 2 s^4}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{1 + 2.622 s + 3.622 s^2 + 2.811 s^3 + 1.811 s^4 + s^5}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{1 + s - 0.657641 s^2 - 1.6219 s^3 - 1.811 s^4 - s^5}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{0.810901 + 4.31528 s + 7.0547 s^2 + 6.27964 s^3 + 5.6219 s^4 + 1.811 s^5 + s^6}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{-1.273 - 2.06481 s - 2.546 s^2 - 1.0324 s^3 - 1.273 s^4}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$
$\frac{0.637 + 1.03321 s + 1.911 s^2}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{0. + 0.637 s - 0.516607 s^2 - 0.637 s^3}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{-1.911 s^2 - 0.637 s^4}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{1.274 s + 2.06643 s^2 + 3.185 s^3 + 0.516607 s^4 + 0.637 s^5}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{1.274 s + 0.516607 s^2 + 1.274 s^3}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{-0.637 - 1.03321 s - 1.274 s^2 - 0.516607 s^3 - 0.637 s^4}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$	$\frac{1 + 1.622 s + 7 s^2 + 4.055 s^3 + 7 s^4 + 0.811 s^5 + s^6}{1 + 4.2438 s + 11.2526 s^2 + 15.1095 s^3 + 11.7126 s^4 + 8.6219 s^5 + 1.811 s^6 + s^7}$