Question

if the matrix [0 6-5x] is symmetric, find the value of x.
x^2 x+3

Solution

If the matrix $\begin{pmatrix} 0 & 6-5x \\ x^2 & x+3 \end{pmatrix}$ is symmetric, then $6 - 5x = x^2 \Leftrightarrow x^2 + 5x - 6 = 0 \Leftrightarrow x = 1 \; or \; x = -6$.

Answer: $x = 1$ or $x = -6$.