$$\begin{array}{r}
x-3 \\
x^2+3x+1 \overline{\smash)x^3+0x^2+x+1} \\
\underline{x^3+3x^2+x} \\
-3x^2+0x+1 \\
\underline{-3x^2-9x-3} \\
9x+4
\end{array}$$