**5.**

Which of the following is the Quotient of $-3q^6 - 3q^5 + 9q^4 + q^3 - 7q^2 + q - 1$ divided by $(-q-1)(1-q)^2$

$$
\begin{array}{r}
+(\boxed{3q^3}) \qquad +(\boxed{6q^2}) \qquad +(\boxed{2}) \\
\hline
(-q-1)(1-q)^2 \Big)\; (-3)q^6 +(-3)q^5 +(9)q^4 +(1)q^3 +(-7)q^2 +(1)q +(-1) \\
(\boxed{-3q^6})\; +(\boxed{3q^5})\; +(\boxed{3q^4})\; +(\boxed{-3q^3}) \\
(-6)q^5 +(6)q^4 +(4)q^3 +(-7)q^2 +(1)q +(-1) \\
+(\boxed{-6q^5})\; +(\boxed{6q^4})\; +(\boxed{6q^3})\; +(\boxed{-6q^2}) \\
+(-2)q^3 +(-1)q^2 +(1)q +(-1) \\
+(\boxed{-2q^3})\; +(\boxed{2q^2})\; +(\boxed{2q})\; +(\boxed{-2}) \\
+(\boxed{-3q^2})\; +(\boxed{-q})\; +(\boxed{1})
\end{array}
$$

Coefficient list:
{3, 6, 0, 2}