4.

Which of the following is the Quotient of $-3\,y^6 + 9\,y^5 - 3\,y^4 - 11\,y^3 + 9\,y^2 - 5\,y + 2$ divided by $(-y-1)\,y^2$

$$
\begin{array}{r}
3\,y^3 \quad -12\,y^2 \quad +15\,y \quad -4 \\
\hline
(-y-1)\,y^2 \;\big)\; -3\,y^6 + 9\,y^5 - 3\,y^4 - 11\,y^3 + 9\,y^2 - 5\,y + 2
\end{array}
$$

	$+(\;3\,y^3\;)$	$+(\;-12\,y^2\;)$	$+(\;15\,y\;)$	$+(\;-4\;)$

$(-y-1)\,y^2$	$(-3)\,y^6$	$+(9)\,y^5$	$+(-3)\,y^4$	$+(-11)\,y^3$	$+(9)\,y^2$	$+(-5)\,y$	$+(2)$
	$(\;-3\,y^6\;)$	$+(\;-3\,y^5\;)$					
		$+(12)\,y^5$	$+(-3)\,y^4$	$+(-11)\,y^3$	$+(9)\,y^2$	$+(-5)\,y$	$+(2)$
		$+(\;12\,y^5\;)$	$+(\;12\,y^4\;)$				
			$+(-15)\,y^4$	$+(-11)\,y^3$	$+(9)\,y^2$	$+(-5)\,y$	$+(2)$
			$+(\;-15\,y^4\;)$	$+(\;-15\,y^3\;)$			
				$+(4)\,y^3$	$+(9)\,y^2$	$+(-5)\,y$	$+(2)$
				$+(\;4\,y^3\;)$	$+(\;4\,y^2\;)$		
					$+(\;5\,y^2\;)$	$+(\;-5\,y\;)$	$+(\;2\;)$

Coefficient list:
{3, -12, 15, -4}