Which of the following is the Quotient of $-3\,r^6 - 3\,r^5 + 21\,r^4 + 13\,r^3 - 43\,r^2 - 7\,r + 31$ divided by $(-r-1)\,(1-r)^2$

					$+\left(\boxed{3\,r^3}\right)$	$+\left(\boxed{6\,r^2}\right)$	$+\left(\boxed{-12\,r}\right)$	$+\left(\boxed{-22}\right)$
$\boxed{(-r-1)\,(1-r)^2}$	$(-3)\,r^6$	$+(-3)\,r^5$	$+(21)\,r^4$	$+(13)\,r^3$	$+(-43)\,r^2$	$+(-7)\,r$	$+(31)$	
	$\left(\boxed{-3\,r^6}\right)$	$+\left(\boxed{3\,r^5}\right)$	$+\left(\boxed{3\,r^4}\right)$	$+\left(\boxed{-3\,r^3}\right)$				
		$+(-6)\,r^5$	$+(18)\,r^4$	$+(16)\,r^3$	$+(-43)\,r^2$	$+(-7)\,r$	$+(31)$	
		$+\left(\boxed{-6\,r^5}\right)$	$+\left(\boxed{6\,r^4}\right)$	$+\left(\boxed{6\,r^3}\right)$	$+\left(\boxed{-6\,r^2}\right)$			
			$+(12)\,r^4$	$+(10)\,r^3$	$+(-37)\,r^2$	$+(-7)\,r$	$+(31)$	
			$+\left(\boxed{12\,r^4}\right)$	$+\left(\boxed{-12\,r^3}\right)$	$+\left(\boxed{-12\,r^2}\right)$	$+\left(\boxed{12\,r}\right)$		
				$+(22)\,r^3$	$+(-25)\,r^2$	$+(-19)\,r$	$+(31)$	
				$+\left(\boxed{22\,r^3}\right)$	$+\left(\boxed{-22\,r^2}\right)$	$+\left(\boxed{-22\,r}\right)$	$+\left(\boxed{22}\right)$	
					$+\left(\boxed{-3\,r^2}\right)$	$+\left(\boxed{3\,r}\right)$	$+\left(\boxed{9}\right)$	

Coefficient list:
$\{3, 6, -12, -22\}$