

4.

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

$$\begin{array}{r}
 \phantom{(-z-1)^2(2-z)} + (3z^3) + (-3z^2) + (2) \\
 \hline
 (-z-1)^2(2-z) \quad (-3)z^6 + (3)z^5 + (9)z^4 + (-5)z^3 + (-5)z^2 + (3)z + (2) \\
 \phantom{(-z-1)^2(2-z)} + (-3z^6) \phantom{+ (9)z^4} + (9z^4) + (6z^3) \\
 \phantom{(-z-1)^2(2-z)} \phantom{+ (-3z^6)} + (3)z^5 \phantom{+ (9)z^4} + (-11)z^3 + (-5)z^2 + (3)z + (2) \\
 \phantom{(-z-1)^2(2-z)} \phantom{+ (-3z^6)} + (3z^5) \phantom{+ (9)z^4} + (-9z^3) + (-6z^2) \\
 \phantom{(-z-1)^2(2-z)} \phantom{+ (-3z^6)} \phantom{+ (3z^5)} + (-2)z^3 + (1)z^2 + (3)z + (2) \\
 \phantom{(-z-1)^2(2-z)} \phantom{+ (-3z^6)} \phantom{+ (3z^5)} + (-2z^3) \phantom{+ (1)z^2} + (6z) + (4) \\
 \phantom{(-z-1)^2(2-z)} \phantom{+ (-3z^6)} \phantom{+ (3z^5)} \phantom{+ (-2z^3)} + (z^2) + (-3z) + (-2)
 \end{array}$$

Coefficient list:

$\{3, -3, 0, 2\}$