

5.

Which of the following is the Quotient of  $-3z^6 + 3z^5 + 18z^4 - 14z^3 - 23z^2 - 4$  divided by  $(-z - 1)(2 - z)^2$

$$\begin{array}{r}
 \phantom{(-z-1)(2-z)^2} + (3z^3) + (6z^2) + (2) \\
 \hline
 (-z-1)(2-z)^2 \quad (-3)z^6 + (3)z^5 + (18)z^4 + (-14)z^3 + (-23)z^2 + (-4) \\
 \phantom{(-z-1)(2-z)^2} + (-3z^6) + (9z^5) + (-12z^3) \\
 \phantom{(-z-1)(2-z)^2} + (-6)z^5 + (18)z^4 + (-2)z^3 + (-23)z^2 + (-4) \\
 \phantom{(-z-1)(2-z)^2} + (-6z^5) + (18z^4) + (-24z^2) \\
 \phantom{(-z-1)(2-z)^2} + (-2)z^3 + (1)z^2 + (-4) \\
 \phantom{(-z-1)(2-z)^2} + (-2z^3) + (6z^2) + (-8) \\
 \phantom{(-z-1)(2-z)^2} + (-5z^2) + (4)
 \end{array}$$

Coefficient list:

$\{3, 6, 0, 2\}$