

2.

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

$$\begin{array}{r}
 \phantom{(-p-1)(1-p)^2} + (3p^3) + (6p^2) + (-12p) + (-22) \\
 \hline
 (-p-1)(1-p)^2 \quad (-3)p^6 + (-3)p^5 + (21)p^4 + (13)p^3 + (-43)p^2 + (-7)p + (31) \\
 \phantom{(-p-1)(1-p)^2} + (-3p^6) + (3p^5) + (3p^4) + (-3p^3) \\
 \phantom{(-p-1)(1-p)^2} + (-6)p^5 + (18)p^4 + (16)p^3 + (-43)p^2 + (-7)p + (31) \\
 \phantom{(-p-1)(1-p)^2} + (-6p^5) + (6p^4) + (6p^3) + (-6p^2) \\
 \phantom{(-p-1)(1-p)^2} + (12)p^4 + (10)p^3 + (-37)p^2 + (-7)p + (31) \\
 \phantom{(-p-1)(1-p)^2} + (12p^4) + (-12p^3) + (-12p^2) + (12p) \\
 \phantom{(-p-1)(1-p)^2} + (22)p^3 + (-25)p^2 + (-19)p + (31) \\
 \phantom{(-p-1)(1-p)^2} + (22p^3) + (-22p^2) + (-22p) + (22) \\
 \phantom{(-p-1)(1-p)^2} + (-3p^2) + (3p) + (9)
 \end{array}$$

Coefficient list:

$\{3, 6, -12, -22\}$