

4.

Which of the following is the Quotient of  $-3x^6 + 18x^4 - 2x^3 - 27x^2 + 6x + 12$  divided by  $(-x - 2)(1 - x)^2$

$$\begin{array}{r}
 \phantom{(-x-2)(1-x)^2} \phantom{(-3)x^6} \phantom{+(18)x^4} + (3x^3) \phantom{+(-2)x^3} \phantom{+(-27)x^2} + (-9x) + (-4) \\
 \hline
 (-x-2)(1-x)^2 \quad (-3)x^6 \quad + (18)x^4 \quad + (-2)x^3 \quad + (-27)x^2 \quad + (6)x \quad + (12) \\
 \phantom{(-x-2)(1-x)^2} + (-3x^6) \phantom{+(18)x^4} + (9x^4) \phantom{+(-2)x^3} \phantom{+(-27)x^2} \phantom{+(6)x} \phantom{+(12)} \\
 \phantom{(-x-2)(1-x)^2} \phantom{(-3x^6)} + (9)x^4 \phantom{+(18)x^4} + (4)x^3 \phantom{+(-2)x^3} + (-27)x^2 \phantom{+(6)x} + (12) \\
 \phantom{(-x-2)(1-x)^2} \phantom{(-3x^6)} + (9x^4) \phantom{+(18)x^4} \phantom{+(-2)x^3} + (-27x^2) \phantom{+(6)x} + (18x) \\
 \phantom{(-x-2)(1-x)^2} \phantom{(-3x^6)} \phantom{+(9)x^4} + (4)x^3 \phantom{+(-2)x^3} + (-12)x \phantom{+(12)} \\
 \phantom{(-x-2)(1-x)^2} \phantom{(-3x^6)} \phantom{+(9)x^4} + (4x^3) \phantom{+(-2)x^3} + (-12x) \phantom{+(12)} + (8) \\
 \phantom{(-x-2)(1-x)^2} \phantom{(-3x^6)} \phantom{+(9)x^4} \phantom{+(4)x^3} \phantom{+(-2)x^3} \phantom{+(-12)x} + (4)
 \end{array}$$

Coefficient list:

$\{3, 0, -9, -4\}$