

2.

Which of the following is the Quotient of $-3q^6 - 6q^5 + 9q^4 + 22q^3 + 10q^2 - 5q - 2$ divided by $(-q - 2)(-q - 1)^2$

$$\begin{array}{r}
 + (3q^3) + (-6q^2) + (2) \\
 \hline
 (-q-2)(-q-1)^2 \quad (-3)q^6 + (-6)q^5 + (9)q^4 + (22)q^3 + (10)q^2 + (-5)q + (-2) \\
 (-3q^6) + (-12q^5) + (-15q^4) + (-6q^3) \\
 + (6)q^5 + (24)q^4 + (28)q^3 + (10)q^2 + (-5)q + (-2) \\
 + (6q^5) + (24q^4) + (30q^3) + (12q^2) \\
 + (-2)q^3 + (-2)q^2 + (-5)q + (-2) \\
 + (-2q^3) + (-8q^2) + (-10q) + (-4) \\
 + (6q^2) + (5q) + (2)
 \end{array}$$

Coefficient list:

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