Which of the following is the Quotient of $-3~m^6+6~m^5+6~m^4-14~m^3-m^2+8~m+2$ divided by $-(1-m)^2~m$ $+ (9) m^4 + (-14) m^3 + (-1) m^2 + (8) m + (2)$

$$+ (9 m4) + (-18 m3) + (9 m2) + (4) m3 + (-10) m2 + (8) m + (2) + (4 m3) + (-8 m2) + (4 m)$$

$$+(4 m^{3})$$
 $+(-8 m^{2})$ $+(4 m)$ $+(-2 m^{2})$ $+(4 m)$ $+(2)$

Coefficient list:

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

$$\begin{bmatrix} -2 \text{ m}^2 \end{bmatrix}$$
) + ($\begin{bmatrix} 4 \text{ m} \end{bmatrix}$) + ($\begin{bmatrix} 2 \end{bmatrix}$)