

3.

Which of the following is the Quotient of $-3q^6 - 3q^5 + 21q^4 + 13q^3 - 43q^2 - 25q + 22$ divided by $(1-q)^2(2-q)$

| | | | | | | | |
|----------------|-----------|--------------|--------------|--------------|---------------|------------|----------|
| | | | | $+ (3q^3)$ | $+ (15q^2)$ | $+ (24q)$ | $+ (14)$ |
| $(1-q)^2(2-q)$ | $(-3)q^6$ | $+ (-3)q^5$ | $+ (21)q^4$ | $+ (13)q^3$ | $+ (-43)q^2$ | $+ (-25)q$ | $+ (22)$ |
| | $(-3q^6)$ | $+ (12q^5)$ | $+ (-15q^4)$ | $+ (6q^3)$ | | | |
| | | $+ (-15)q^5$ | $+ (36)q^4$ | $+ (7)q^3$ | $+ (-43)q^2$ | $+ (-25)q$ | $+ (22)$ |
| | | $+ (-15q^5)$ | $+ (60q^4)$ | $+ (-75q^3)$ | $+ (30q^2)$ | | |
| | | | $+ (-24)q^4$ | $+ (82)q^3$ | $+ (-73)q^2$ | $+ (-25)q$ | $+ (22)$ |
| | | | $+ (-24q^4)$ | $+ (96q^3)$ | $+ (-120q^2)$ | $+ (48q)$ | |
| | | | | $+ (-14)q^3$ | $+ (47)q^2$ | $+ (-73)q$ | $+ (22)$ |
| | | | | $+ (-14q^3)$ | $+ (56q^2)$ | $+ (-70q)$ | $+ (28)$ |
| | | | | | $+ (-9q^2)$ | $+ (-3q)$ | $+ (-6)$ |

Coefficient list:

$\{3, 15, 24, 14\}$