

$$\begin{aligned}
\mathcal{J}_6 = & -X^3 \text{ (diagram)} - X^5 \text{ (diagram)} - X^3 \text{ (diagram)} - X^3 \text{ (diagram)} - X \text{ (diagram)} - X^4 \text{ (diagram)} - X^3 \text{ (diagram)} - X^2 \text{ (diagram)} - X^2 \text{ (diagram)} - X \text{ (diagram)} - X^3 \text{ (diagram)} - X^4 \text{ (diagram)} - X^2 \text{ (diagram)} - X^2 \text{ (diagram)} - X \text{ (diagram)} - X^4 \text{ (diagram)} - X^2 \text{ (diagram)} - X^2 \text{ (diagram)} - X^3 \text{ (diagram)} - X^3 \text{ (diagram)} - X^4 \text{ (diagram)} \\
\mathcal{J}_6^2 = & -X^3 \text{ (diagram)} - X^3 \text{ (diagram)} - (X^2 + X^4) \text{ (diagram)} - (X^5 + X^7) \text{ (diagram)} - X^3 \text{ (diagram)} - X \text{ (diagram)} - X^2 \text{ (diagram)} - (X^3 + X^5) \text{ (diagram)} - X^2 \text{ (diagram)} - X^4 \text{ (diagram)} - (X^3 + X^5) \text{ (diagram)} - X^4 \text{ (diagram)} - (X^4 + X^6) \text{ (diagram)} - X^2 \text{ (diagram)} - (X + X^3) \text{ (diagram)} - (X^3 + X^5) \text{ (diagram)} - X^3 \text{ (diagram)} - (X^4 + X^6) \text{ (diagram)} - X^2 \text{ (diagram)} - (X^2 + X^4) \text{ (diagram)} - X \text{ (diagram)}
\end{aligned}$$