

Name : _____

Subtracting Polynomials

Multi-variable: L1S1

Arrange and subtract the polynomials.

1) $(7y^2 - 11x^5y - 5yz + 4xyz) - (xy + x^5y + xyz + y^2)$ 2) $(9c + 3cd^3 + a^3bc - a + 14) - (6c - 5a + 3cd^3)$

3) $(-31m - 20n^3 - 17n) - (-24 - 17n - 8n^3 - 31m)$ 4) $(-g^4h^2 - g - 6 - 2h^2 - h) - (g + g^2 + h^2 + 1 + h)$

5) $(-7pq^2r^2 - 21qr^5 + 2p^6) - (2p^6 + 18pq^2r^2 - 21qr^5)$ 6) $(12v^3 - 8vw - 13 - 5v) - (-2vw + 12v^3 + 19v)$

7) $(6stu^2 - s^3t^3 + 3t^6 - t^4) - (2t^4 - s^3t^3 + stu^2 - t^6 + s^5)$ 8) $(8d^2 + c + 5c^4d) - (-6d + 5c^4d + c + 8d^2 - d^4)$

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Answer key

Subtracting Polynomials

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Arrange and subtract the polynomials.

1) $(7y^2 - 11x^5y - 5yz + 4xyz) - (xy + x^5y + xyz + y^2)$ 2) $(9c + 3cd^3 + a^3bc - a + 14) - (6c - 5a + 3cd^3)$

$$\begin{array}{r} -11x^5y + 4xyz + 7y^2 \quad - 5yz \\ (-) \quad xy + x^5y + xyz + y^2 + xy \\ \hline -12x^5y + 3xyz + 6y^2 - xy - 5yz \end{array}$$

$$\begin{array}{r} a^3bc + 3cd^3 - a + 9c + 14 \\ (-) \quad 3cd^3 - 5a + 6c \\ \hline a^3bc \quad + 4a + 3c + 14 \end{array}$$

3) $(-31m - 20n^3 - 17n) - (-24 - 17n - 8n^3 - 31m)$ 4) $(-g^4h^2 - g - 6 - 2h^2 - h) - (g + g^2 + h^2 + 1 + h)$

$$\begin{array}{r} -20n^3 - 31m - 17n \\ (-) \quad -8n^3 - 31m - 17n - 24 \\ \hline -12n^3 \quad + 24 \end{array}$$

$$\begin{array}{r} -g^4h^2 \quad - 2h^2 - g - h - 6 \\ (-) \quad g^2 + h^2 + g + h + 1 \\ \hline -g^4h^2 - g^2 - 3h^2 - 2g - 2h - 7 \end{array}$$

5) $(-7pq^2r^2 - 21qr^5 + 2p^6) - (2p^6 + 18pq^2r^2 - 21qr^5)$ 6) $(12v^3 - 8vw - 13 - 5v) - (-2vw + 12v^3 + 19v)$

$$\begin{array}{r} 2p^6 - 21qr^5 - 7pq^2r^2 \\ (-) \quad 2p^6 - 21qr^5 + 18pq^2r^2 \\ \hline - 25pq^2r^2 \end{array}$$

$$\begin{array}{r} 12v^3 - 8vw - 5v - 13 \\ (-) \quad 12v^3 - 2vw + 19v \\ \hline - 6vw - 24v - 13 \end{array}$$

7) $(6stu^2 - s^3t^3 + 3t^6 - t^4) - (2t^4 - s^3t^3 + stu^2 - t^6 + s^5)$ 8) $(8d^2 + c + 5c^4d) - (-6d + 5c^4d + c + 8d^2 - d^4)$

$$\begin{array}{r} 3t^6 - s^3t^3 \quad - t^4 + 6stu^2 \\ (-) \quad -t^6 - s^3t^3 + s^5 + 2t^4 + stu^2 \\ \hline 4t^6 \quad - s^5 - 3t^4 + 5stu^2 \end{array}$$

$$\begin{array}{r} 5c^4d \quad + 8d^2 + c \\ (-) \quad 5c^4d - d^4 + 8d^2 + c - 6d \\ \hline d^4 \quad + 6d \end{array}$$