

Name : _____

Adding Polynomials

Multi-variable: L2S2

Arrange and add the polynomials.

1) $-\frac{5}{6}m^5 + \frac{3}{4} + \frac{3}{4}m^4$, $\frac{2}{3}mn^2 + \frac{1}{2}m^4 - \frac{1}{2}m^5 - \frac{3}{4}$ 2) $\frac{3}{8}u^2v^2 + 5t^4uv - \frac{3}{7}t + 6 + \frac{5}{6}v$, $v + \frac{3}{7}t - u^2v^2$

3) $-\frac{1}{3}t^4 - 5st - \frac{1}{5}rs^2t^3 - 7$ $-5g^2 - 2g^3 - \frac{7}{9}k + 33 + \frac{8}{9}h^5$

5) $a^4b + \frac{1}{6}a + 2ab^3 + 4b^2$ $-\frac{7}{8}p^6q - 8 - \frac{5}{8}q$

7) $\frac{1}{5}x + xy + \frac{2}{5}xyz - \frac{3}{5}y$, $-5xy - 2w + \frac{4}{5}x - xyz - y$ 8) $8 + 3c^4 + cd + 8d^3 + c$, $-8d^3 - 3c^4 - 9 - cd - c$

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Answer key

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Multi-variable: L2S2

Arrange and add the polynomials.

1) $-\frac{5}{6}m^5 + \frac{3}{4} + \frac{3}{4}m^4$, $\frac{2}{3}mn^2 + \frac{1}{2}m^4 - \frac{1}{2}m^5 - \frac{3}{4}$

$$\begin{array}{r} -\frac{5}{6}m^5 + \frac{3}{4}m^4 \qquad + \frac{3}{4} \\ (+) -\frac{1}{2}m^5 + \frac{1}{2}m^4 + \frac{2}{3}mn^2 - \frac{3}{4} \\ \hline -\frac{4}{3}m^5 + \frac{5}{4}m^4 + \frac{2}{3}mn^2 \end{array}$$

2) $\frac{3}{8}u^2v^2 + 5t^4uv - \frac{3}{7}t + 6 + \frac{5}{6}v$, $v + \frac{3}{7}t - u^2v^2$

$$\begin{array}{r} 5t^4uv + \frac{3}{8}u^2v^2 - \frac{3}{7}t + \frac{5}{6}v + 6 \\ (+) \qquad - u^2v^2 + \frac{3}{7}t + v \\ \hline 5t^4uv - \frac{5}{8}u^2v^2 \qquad + \frac{11}{6}v + 6 \end{array}$$

3) $-\frac{1}{3}t^4 - 5st - \frac{1}{5}rs^2t^3 - 7s^5$

$$\begin{array}{r} -\frac{1}{5}rs^2t^3 - 7s^5 \\ (+) \frac{4}{5}rs^2t^3 + s^5 \\ \hline \frac{3}{5}rs^2t^3 - 6s^5 \end{array}$$

$-5g^2 - 2g^3 - \frac{7}{9}k + 33 + \frac{8}{9}h^5$

$$\begin{array}{r} g^3 + 5g^2 \\ g^3 - 5g^2 - \frac{7}{9}k + 33 \\ \hline -\frac{7}{9}k + 33 \end{array}$$

5) $a^4b + \frac{1}{6}a + 2ab^3 + 4b^2$

$$\begin{array}{r} a^4b + 2ab^3 + \\ (+) 5a^4b + 7ab^3 \\ \hline 6a^4b + 9ab^3 + \end{array}$$

$-\frac{7}{8}p^6q - 8 - \frac{5}{8}q$

$$\begin{array}{r} 4q - 7 \\ \frac{5}{8}q - 8 \\ \hline \frac{37}{8}q - 15 \end{array}$$

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7) $\frac{1}{5}x + xy + \frac{2}{5}xyz - \frac{3}{5}y$, $-5xy - 2w + \frac{4}{5}x - xyz - y$

$$\begin{array}{r} \frac{2}{5}xyz + xy + \frac{1}{5}x - \frac{3}{5}y \\ (+) -xyz - 5xy + \frac{4}{5}x - y - 2w \\ \hline -\frac{3}{5}xyz - 4xy + x - \frac{8}{5}y - 2w \end{array}$$

8) $8 + 3c^4 + cd + 8d^3 + c$, $-8d^3 - 3c^4 - 9 - cd - c$

$$\begin{array}{r} 3c^4 + 8d^3 + cd + c + 8 \\ (+) -3c^4 - 8d^3 - cd - c - 9 \\ \hline -1 \end{array}$$