

Math Sheet

Name _____ Score _____ / 10 Teacher _____ Date _____

Adding and Subtracting Polynomials

Add or subtract, then combine like terms.

1. $(6n^5 + 7n + 8) + (-8n^5 - n^2 - 9n) - (9n^5 + 7n^4 - 7n^3)$

2. $(-6p^5 - 4p^4) + (2p^5 + 7p^4 - 2)$

3. $(-2n^5 - 9n - 7) + (-9n^4 - 6n + 5)$

4. $(3m^4 + m) + (2m^4 - 8m^3) + (9m^3 - 8m^2 - 9m)$

5. $(5m^2 - 9m) - (8m^4 + 5m^2 - 7) - (6m^3 + 7m - 7)$

6. $(-4z^4 + 7z^2) - (-3z^2 - 6)$

7. $(n^4 - 6n^3) - (5n^5 + 2n^3 - 4n^2) + (n^5 + 3n^4 + 8n)$

8. $(2x^4 + 6x^3) + (-9x^4 - 8)$

9. $(8y^3 - 9y) - (-9y^3 + 1) + (2y^4 - 4y^3 - 9y)$

10. $(-8z^5 + 8z^4 - z^2) + (z^5 - 4z^4 + 4z)$

Adding and Subtracting Polynomials

Answer key

Add or subtract, then combine like terms.

1. $(6n^5 + 7n + 8) + (-8n^5 - n^2 - 9n) - (9n^5 + 7n^4 - 7n^3)$

Distribute

$$6n^5 + 7n + 8 - 8n^5 - n^2 - 9n - 9n^5 - 7n^4 + 7n^3$$

Collect like terms

$$-11n^5 - 7n^4 + 7n^3 - n^2 - 2n + 8$$

2. $(-6p^5 - 4p^4) + (2p^5 + 7p^4 - 2)$

Distribute

$$-6p^5 - 4p^4 + 2p^5 + 7p^4 - 2$$

Collect like terms

$$-4p^5 + 3p^4 - 2$$

3. $(-2n^5 - 9n - 7) + (-9n^4 - 6n + 5)$

Distribute

$$-2n^5 - 9n - 7 - 9n^4 - 6n + 5$$

Collect like terms

$$-2n^5 - 9n^4 - 15n - 2$$

4. $(3m^4 + m) + (2m^4 - 8m^3) + (9m^3 - 8m^2 - 9m)$

Distribute

$$3m^4 + m + 2m^4 - 8m^3 + 9m^3 - 8m^2 - 9m$$

Collect like terms

$$5m^4 + m^3 - 8m^2 - 8m$$

5. $(5m^2 - 9m) - (8m^4 + 5m^2 - 7) - (6m^3 + 7m - 7)$

Distribute

$$5m^2 - 9m - 8m^4 - 5m^2 + 7 - 6m^3 - 7m + 7$$

Collect like terms

$$-8m^4 - 6m^3 - 16m + 14$$

6. $(-4z^4 + 7z^2) - (-3z^2 - 6)$

Distribute

$$-4z^4 + 7z^2 + 3z^2 + 6$$

Collect like terms

$$-4z^4 + 10z^2 + 6$$

7. $(n^4 - 6n^3) - (5n^5 + 2n^3 - 4n^2) + (n^5 + 3n^4 + 8n)$

Distribute

$$n^4 - 6n^3 - 5n^5 - 2n^3 + 4n^2 + n^5 + 3n^4 + 8n$$

Collect like terms

$$-4n^5 + 4n^4 - 8n^3 + 4n^2 + 8n$$

8. $(2x^4 + 6x^3) + (-9x^4 - 8)$

Distribute

$$2x^4 + 6x^3 - 9x^4 - 8$$

Collect like terms

$$-7x^4 + 6x^3 - 8$$

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Add or subtract, then combine like terms.

9. $(8y^3 - 9y) - (-9y^3 + 1) + (2y^4 - 4y^3 - 9y)$

Distribute

$$8y^3 - 9y + 9y^3 - 1 + 2y^4 - 4y^3 - 9y$$

Collect like terms

$$2y^4 + 13y^3 - 18y - 1$$

10. $(-8z^5 + 8z^4 - z^2) + (z^5 - 4z^4 + 4z)$

Distribute

$$-8z^5 + 8z^4 - z^2 + z^5 - 4z^4 + 4z$$

Collect like terms

$$-7z^5 + 4z^4 - z^2 + 4z$$