

Polynomials Quiz Review

Calculate the **degree** if each polynomial. Then, name it by both **degree** and **number of terms**.

1. $4x^3 + 2x^4 + 2$

degree: 4
quartic trinomial

2. $y^2 - y$

degree: 2
quadratic binomial

3. $9w^3$

degree: 3
cubic monomial

Write the polynomial in **standard form** and state the **leading coefficient**.

4. $8 - 2x^2 + 4x^4 - 3x$

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

5. $7y + 5y^3 - y^6 + 10$

$-y^6 + 5y^3 + 7y + 10$

-1

6. $2x^5 - 12 + 3x$

$2x^5 + 3x - 12$

Find the **sum** or **difference**. Give your final answer in **standard form**.

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

$4x^3 + 5$

8. $(x^3 - x + 1) - (3x - 1)$

$x^3 - 4x + 2$

9. $(3g^3 - 2g^2 - 2) - (4g^2 - g - 3)$

$3g^3 - 6g^2 + g + 1$

10. $(-3d^2 - 8 + 2d) + (4d - 12 + d^2)$

$-2d^2 + 6d - 20$

Find the **product**. Show your work, and give your final answer in **standard form**.

11. $5w(-3w^2 + 2w - 4)$

$-15w^3 + 10w^2 - 20w$

12. $3a(a^2 - 3a + 4) - 4(3a^3 - 2a^2)$

$3a^3 - 9a^2 + 12a - 12a^3 + 8a^2$

$-9a^3 - a^2 + 12a$

13. $(3y - 4)(2y + 5)$

$6y^2 + 15y - 8y - 20$

$6y^2 + 7y - 20$

14. $(4y^2 - 3)(4y^2 + 7y + 2)$

$16y^4 + 28y^3 + 8y^2 - 12y^2 - 21y - 6$

$16y^4 + 28y^3 - 4y^2 - 21y - 6$