

MULTIPLYING POLYNOMIALS

Multiply and simplify.

$$1. \quad 2(4x^2 - 5x - 1)$$

$$2. \quad -3y(4y - 2)$$

$$3. \quad 4z^2(z^3 - z)$$

$$4. \quad 3(5x^2 - 3x + 1)$$

$$5. \quad -4y(5y - 3)$$

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

$$7. \quad (x + 6)(x + 8)$$

$$8. \quad (x + 3)(x + 4)$$

$$9. \quad (y - 1)(y - 5)$$

$$10. \quad (z + 3)(z - 7)$$

$$11. \quad (y - 6)(y - 8)$$

$$12. \quad (z + 1)(z - 5)$$

$$13. \quad (x - 4)(x + 3)$$

$$14. \quad (3x + 4)(x - 5)$$

$$15. \quad 3x^2(5x^2 - 3x + 6)$$

$$16. \quad (2x - 3)(3x + 2)$$

$$17. \quad (3x - 5)(x - 4)$$

$$18. \quad (x - 7)(x + 7)$$

$$19. \quad (x + 4)^2$$

$$20. \quad (x - 2)(x^2 + 3x - 5)$$

$$21. \quad (2x + 5)(4x - 3)$$

$$22. \quad (3x - 4)^2$$

$$23. \quad (3x + 1)(5x^2 - 14x + 2)$$

$$24. \quad (3x + 1)(4x^2 - 17x + 2)$$

$$25. \quad (2x + 3)(3x - 5)$$

$$26. \quad (2x - 5)^2$$

$$27. \quad (2x + 5)(3x^2 + 4x - 5)$$

$$28. \quad (3x - 4)(5x^2 + 2x - 1)$$

$$29. \quad (x + 5)^3$$

$$30. \quad (x - 2)^4$$

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Answers

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|-------------------------------|-------------------------------------|------------------------------|----------------------------|
| 1. $8x^2 - 10x - 2$ | 2. $-12y^2 + 6y$ | 3. $4z^5 - 4z^3$ | 4. $15x^2 - 9x + 3$ |
| 5. $-20y^2 + 12y$ | 6. $2z^5 - 14z^4 - 8z^3$ | 7. $x^2 + 14x + 48$ | 8. $x^2 + 7x + 12$ |
| 9. $y^2 - 6y + 5$ | 10. $z^2 - 4z - 21$ | 11. $y^2 - 14y + 48$ | 12. $z^2 - 4z - 5$ |
| 13. $x^2 - x - 12$ | 14. $3x^2 - 11x - 20$ | 15. $15x^4 - 9x^3 + 18x^2$ | 16. $6x^2 - 5x - 6$ |
| 17. $3x^2 - 17x + 20$ | 18. $x^2 - 49$ | 19. $x^2 + 8x + 16$ | 20. $x^3 + x^2 - 11x + 10$ |
| 21. $8x^2 + 14x - 15$ | 22. $9x^2 - 24x + 16$ | 23. $15x^3 - 37x^2 - 8x + 2$ | |
| 24. $12x^3 - 47x^2 - 11x + 2$ | 25. $6x^2 - x - 15$ | 26. $4x^2 - 20x + 25$ | |
| 27. $6x^3 + 23x^2 + 10x - 25$ | 28. $15x^3 - 14x^2 - 11x + 4$ | | |
| 29. $x^3 + 15x^2 + 75x + 125$ | 30. $x^4 - 8x^3 + 24x^2 - 32x + 16$ | | |