解答 項の並び順は、$x^2 \to y^2 \to z^2 \to xy \to yz \to zx$ に統一しています。

1. 式の展開（3項・レベル別）

(1) $x^2 + 64y^2 + z^2 + 16xy + 16yz + 2zx$

(2) $x^2 + 81y^2 + 9z^2 - 18xy + 54yz - 6zx$

(3) $4x^2 + y^2 + 36z^2 - 4xy + 12yz - 24zx$

(4) $36x^2 + 16y^2 + z^2 - 48xy + 8yz - 12zx$

(5) $-4x^2 - y^2 + 9z^2 + 4xy$

(6) $9x^2 - 4y^2 - 9z^2 - 12yz$

(7) $-x^2 + 9y^2 + 16z^2 + 24yz$

(8) $x^2 - 9y^2 - 4z^2 - 12yz$

(9) $8x^2 - 2y^2 + 30z^2 + 15xy + 4yz + 53zx$

(10) $24x^2 + 24y^2 - 4z^2 - 50xy - 20yz + 29zx$

(11) $5x^2 + 4y^2 - 72z^2 - 21xy + 23yz + 37zx$

(12) $18x^2 + 21y^2 - 4z^2 - 51xy + 8yz + 6zx$

2. 式の展開（3項・レベル別）

(1) $9x^2 + y^2 + z^2 + 6xy + 2yz + 6zx$

(2) $4x^2 + 49y^2 + 4z^2 - 28xy + 28yz - 8zx$

(3) $16x^2 + y^2 + 4z^2 - 8xy - 4yz + 16zx$

(4) $16x^2 + 9y^2 + z^2 - 24xy - 6yz + 8zx$

(5) $-25x^2 + y^2 + 9z^2 + 6yz$

(6) $25x^2 + y^2 - z^2 + 10xy$

(7) $4x^2 - 4y^2 - 9z^2 + 12yz$

(8) $4x^2 + 25y^2 - z^2 - 20xy$

(9) $5x^2 - 6y^2 + 12z^2 - 29xy + 21yz - 19zx$

(10) $2x^2 + 4y^2 + 20z^2 + 6xy - 21yz - 13zx$

(11) $28x^2 - 5y^2 + 2z^2 - 31xy - 3yz + 18zx$

(12) $-8x^2 + 16y^2 - 5z^2 - 28xy + 38yz + 14zx$

3. 式の展開（3項・レベル別）

(1) $36x^2 + 4y^2 + z^2 + 24xy + 4yz + 12zx$

(2) $9x^2 + y^2 + 25z^2 - 6xy - 10yz + 30zx$

(3) $x^2 + 49y^2 + 9z^2 + 14xy + 42yz + 6zx$

(4) $x^2 + 9y^2 + z^2 + 6xy + 6yz + 2zx$

(5) $-25x^2 - 9y^2 + z^2 + 30xy$

(6) $25x^2 - y^2 + 9z^2 + 30zx$

(7) $-x^2 - 4y^2 + 4z^2 + 4xy$

(8) $-x^2 + 9y^2 + 16z^2 - 24yz$

(9) $2x^2 + 35y^2 - 12z^2 - 17xy - 13yz + 5zx$

(10) $-81x^2 + 6y^2 - z^2 + 9xy + yz - 18zx$

(11) $-3x^2 + 24y^2 - 2z^2 - 14xy + 8yz + 5zx$

(12) $3x^2 - 15y^2 - 8z^2 - 12xy - 26yz - 2zx$

4. 式の展開（3項・レベル別）

(1) $9x^2 + y^2 + 36z^2 + 6xy - 12yz - 36zx$

(2) $64x^2 + y^2 + 9z^2 - 16xy - 6yz + 48zx$

(3) $x^2 + 9y^2 + 81z^2 - 6xy + 54yz - 18zx$

(4) $4x^2 + y^2 + 9z^2 + 4xy - 6yz - 12zx$

(5) $25x^2 - y^2 - 9z^2 + 6yz$

(6) $x^2 - 4y^2 + z^2 - 2zx$

(7) $9x^2 - y^2 - 25z^2 - 10yz$

(8) $4x^2 - 25y^2 - z^2 + 10yz$

(9) $-3x^2 - 8y^2 - 4z^2 + 14xy - 12yz + 8zx$

(10) $21x^2 - 15y^2 - z^2 - 26xy + 8yz + 4zx$

(11) $8x^2 + 2y^2 + 27z^2 + 8xy - 21yz - 42zx$

(12) $-18x^2 + 8y^2 + 6z^2 - 26yz + 33zx$

5. 式の展開（3項・レベル別）

(1) $9x^2 + 16y^2 + z^2 - 24xy - 8yz + 6zx$

(2) $x^2 + y^2 + 49z^2 + 2xy - 14yz - 14zx$

(3) $x^2 + 16y^2 + 4z^2 + 8xy + 16yz + 4zx$

(4) $49x^2 + y^2 + 4z^2 + 14xy - 4yz - 28zx$

(5) $-x^2 - 4y^2 + z^2 - 4xy$

(6) $x^2 + 9y^2 - 9z^2 + 6xy$

(7) $-16x^2 - 9y^2 + z^2 + 24xy$

(8) $-9x^2 + 4y^2 + z^2 - 4yz$

(9) $-3x^2 - 9y^2 + 15z^2 - 12xy + 6yz - 4zx$

(10) $18x^2 + 5y^2 + 10z^2 - 33xy - 27yz + 27zx$

(11) $-7x^2 + 2y^2 - 35z^2 - 13xy + 9yz + 42zx$

(12) $-12x^2 + 3y^2 - 42z^2 + 16xy - 11yz + 54zx$