

# Mathematics

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(Chapter – 2) (Polynomials)(Exemplar Problems)

(Class – IX)

## Exercise 2.4

### Question 6:

Multiply  $x^2 + 4y^2 + z^2 + 2xy + xz - 2yz$  by  $(-z + x - 2y)$ .

### Answer 6:

The product of given polynomials is given by

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

$$= (x - 2y - z)(x^2 + 4y^2 + z^2 + 2xy - 2yz + xz)$$

$$= [(x) + (-2y) + (-z)][(x)^2 + (-2y)^2 + (-z)^2 - (x)(-2y) - (-2y)(-z) - (-z)(y)]$$

$$= (x)^3 + (-2y)^3 + (-z)^3 - 3(x)(-2y)(-z)$$

$$[\because (a + b + c)(a^2 + b^2 + c^2 - ab - bc - ca) = a^3 + b^3 + c^3 - 3abc]$$

$$= x^3 - 8y^3 - z^3 - 6xyz$$

