

Chapter 2 Class 9

Polynomials

- Mix Questions

Worksheet 1

by *teachoo*

Chapter: [Chapter 2 Class 9 Maths – Polynomials](#)

Name: _____

School: _____

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1. (2 Marks) A box has a volume given by $V(y) = 2y^3 + y^2 - 2y - 1$. If one of its dimensions is $(y - 1)$, is it possible for the box to be a cube? Justify your answer conceptually.
2. (2 Marks) The area of a rectangle is given by $A(a) = 25a^2 - 35a + 12$. Without finding the exact dimensions, determine if a rectangle with $a = 1$ unit is possible.
3. (2 Marks) The path of a diver from a diving board is given by $p(x) = -x^2 + 2x + 3$, where x is the horizontal distance. Does the diver ever reach a height of 5 units? Explain using the concept of the vertex of a parabola.

4. (2 Marks) If the side of a square is $(x + y)$, its area is $(x + y)^2$. If the side is $(x - y)$, its area is $(x - y)^2$. What is the geometric meaning of the term $2xy$ in the expansion of these identities?
5. (2 Marks) A farmer has a rectangular field of area $A(x) = x^2 + 5x + 6$. He wants to fence it. Find a polynomial expression for the perimeter of the field.
6. (2 Marks) The cost of producing x toys is given by a linear polynomial $C(x) = 10x + 500$. What do the coefficient '10' and the constant '500' represent in this real-world scenario?
7. (2 Marks) The polynomial $x - a$ is a factor of $x^{10} - a^{10}$. Without performing division, explain why this must be true using the Factor Theorem.
8. (2 Marks) Give a real-world example of a situation that can be modelled by a cubic polynomial and one by a constant polynomial.
9. (3 Marks) A rectangular garden has a length of $(2x + 3)$ meters and a width of $(x - 1)$ meters. A path of uniform width of 1 meter is built around it. Find a polynomial expression for the area of the path.
10. (3 Marks) The volume of a cuboid is $V(x) = x^3 + 13x^2 + 32x + 20$. If one of its dimensions is $(x + 1)$, find the other two dimensions. Could this cuboid be a cube?

Important links

- Answer of this worksheet - <https://www.teachoo.com/25598/5365/Mix-Questions---Worksheet-1/category/Teachoo-Questions---Mix/>
- Full Chapter with Explanation, Activity, Worksheets and more – <https://www.teachoo.com/subjects/cbse-maths/class-9th/ch2-9th-polynomials/>
- Science Class 9 – <https://www.teachoo.com/subjects/science/class-9/>
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