Maths Sample Paper

Time: 3 Hours

1) The HCF of two numbers is 9 and their LCM is 360. If one of the numbers is 45, what is the other number?

[Marks: 1]

(a) 60
(b) 72
(c) 80
(d) 90

2) Let 'a' be a non-zero rational number and 'b' be an irrational number. Which of the following operations will always result in an irrational number?

[Marks: 1]

(a) a + b
(b) a - b
(c) a × b
(d) All of the above

3) A quadratic polynomial has the sum of its zeroes as -2 and the product of its zeroes as -15. Which of the following could be the polynomial?

[Marks: 1]

(a) $x^2 + 2x - 15$
(b) $x^2 - 2x - 15$
(c) $x^2 + 2x + 15$
(d) $x^2 - 2x + 15$

4) The graph of a polynomial y = p(x) intersects the x-axis at exactly three distinct points. What can be the minimum degree of the polynomial p(x)?

[Marks: 1]

(a) 1
(b) 2
(c) 3
(d) 4

5) What is the degree of the polynomial p(x) = $(2x^2 + 5)(x^3 - 7) - 2x$■?

[Marks: 1]

(a) 2
(b) 3
(c) 4
(d) 5

6) Using the Fundamental Theorem of Arithmetic, explain why 6■ can never end with the digit zero for any natural number n.

[Marks: 2]

7) Find a quadratic polynomial whose sum and product of zeroes are -1/2 and -3/2 respectively.

[Marks: 2]

8) The HCF of two numbers is 9 and their product is 2700. Find their LCM.

[Marks: 2]