

VAISHALI EDUCATION POINT

(Quality Education Provider)
Mathematics Practice Paper

Topic – Factorization

M.M-50
Time-2 hrs

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Q1. $f(x) = 3x^4 + 17x^3 + 9x^2 - 7x - 10$; $g(x) = x + 5$ [use the factor theorem to find whether polynomial $g(x)$ is a factor of polynomial $f(x)$ or, not : (1 - 7)]

Q2. If both $x + 1$ and $x - 1$ are factors of $ax^3 + x^2 - 2x + b$, find the values of 'a' and 'b'.

Q3. Find α and β if $x + 1$ and $x + 2$ are factors of $x^3 + 3x^2 - 2\alpha x + \beta$.

Q4. Find the values of a and b, if $x^2 - 4$ is a factor of $ax^4 + 2x^3 - 3x^2 + bx - 4$.

Q5. Factorize: $2y^3 - 5y^2 - 19y + 42$.

Q6. Simplify: $\frac{173 \times 173 \times 173 + 127 \times 127 \times 127}{173 \times 173 - 173 \times 127 + 127 \times 127}$

Q7. What is the remainder theorem?

Q8. What is the factor theorem?

Q9. Prove that $2x^4 - 5x^3 + 2x^2 - x + 2$ is exactly divisible by $x^2 - 3x + 2$.

Q10. Using the factor theorem factorize $x^4 + x^3 - 7x^2 - x + 6$.