



G.D.GOENKA PUBLIC SCHOOL

Class: 9th

Subject: Mathematics

Polynomials

Questions of critical thinking

Date of issue: 22 Apr. 2021 Date of submission: 26Apr.

1. Find the factors: $x^3 + 13x^2 + 32x + 20$

2. Find a and b such that $(x+2)$ and $(x-2)$ are factors of

$$P(x) = ax^4 + 2x^3 - 3x^2 + b x - 4$$

3. Find the value of $x^2 + \frac{1}{x^2}$ if $x + \frac{1}{x} = \sqrt{3} + 1$

4. Evaluate: $(91+89)(91-89) \div 180$

5. If $\frac{a}{b} + \frac{b}{a} = -1$, then find the value of $a^3 - b^3$

6. If $a + b + 2 = 0$, then find the value of $a^3 + b^3 + 8$

7. Find the value of K, if $x-1$ is a factor of $p(x)$

$$P(x) = Kx^2 - 3x + K$$

8. Use identity to find the square of

$$(0.4p - 0.5q)^2$$

9. Find the zero of the polynomial $p(x) = ax + 1$

10. Find the remainder when $p(x) = x^3 + 1$ is divided by $x+1$