

TS-1/Polynomials/Class-IX

Note: Each question or part is of 2 marks.

Max marks: 32

Max Time : 60 Min

Question: 1=> Write a polynomial equation whose zeros or roots are 2,3,4.

Question: 2=> Which of the following expressions are polynomials in one variable and which are not? State reasons for your answer.

1. $x^{\frac{3}{2}} + 5x^2 + 6$
2. $x^3 + 9x + 6$
3. $0.5x^9 + \frac{3}{2}x + \sqrt{5}$

Question: 3=> Verify whether the following are zeroes of the polynomial, indicated against them.

1. $p(x) = x^2 + 5x + 6, x = -3$
2. $p(x) = rx + s, x = \frac{s}{r}$
3. $p(x) = 2x^2 - 5, x = \pm\sqrt{\frac{5}{2}}$

Question: 4=> Find the value of k, if $x - 1$ is a factor of $p(x)$ in each of the following cases:

1. $p(x) = x^2 + 5x + k$
2. $p(x) = 2x^2 + \frac{3}{2}x + k$

Question: 5=> Factorise : $x^3 - 9x^2 + 26x - 24$

Question: 6=> Factorise :

1. $49a^2 + 70ab + 25b^2$
2. $\frac{25}{4}l^2 - \frac{16}{9}m^2$
3. $4x^2 + y^2 + z^2 - 4xy - 2yz + 4xz$

Question: 7=> Evaluate each of the following using suitable identities:

1. $(102)^3$
2. $(9999)^3$

Question: 8=> Factorise : $27x^3 + y^3 + 8z^3 - 18xyz$