Edu Gain

Grade 10 Math
Polynomials

Name: .....

Date: .....

Answer The Following

1) If two zeroes of polynomial $x^3 + 3x^2 + cx + d$ are $2+\sqrt{3}$ and $2-\sqrt{3}$, find its third zero.

2) If α and β are the zeroes of polynomial $x^2 - x - 6$, find a polynomial whose zeroes are $2\alpha+2$ and $2\beta+2$.

3) If α and β are the zeroes of quadratic polynomial $x^2 - 3x + 1$, find the value of $\alpha^2 + \beta^2$.

4) Find the zeroes of the polynomial $f(x) = x^3 - 9x^2 + 26x - 24$, if it is given that sum of its two zeroes is 5.

5) Find the zeroes of the polynomial $f(x) = x^3 - 3x^2 - 16x + 48$, if it is given that two of its zeroes are equal in magnitude but opposite in sign.

Choose correct answer(s) from given choice

6) If α and β are the zeroes of quadratic polynomial $x^2 + 2px - q$, find the value of $\alpha^2 + \beta^2$.

a. $4p^2 + 2q$ b. $4p^2 + 4q$

c. $4p^2 - 2q$ d. $8p^2 + 2q$

7) If α and β are the zeroes of polynomial $x^2 - x - 6$, find a polynomial whose zeroes are α^2/β^2 and β^2/α^2.

a. $k\left[x^2+\frac{97}{36}x+1\right]$ b. $k\left[x^2-\frac{100}{36}x+1\right]$

c. $k\left[x^2+\frac{100}{36}x+1\right]$ d. $k\left[x^2-\frac{97}{36}x+1\right]$

8) Find the quadratic polynomial such that sum of its zeroes is 23 and difference between zeroes is 7.

a. $k\,[x^2 + 23x + 120]$ b. $k\,[x^2 - 23x + 120]$

c. $k\,[x^2 - 25x + 120]$ d. $k\,[x^2 - 31x + 120]$

9) If α and β are the zeroes of polynomial $x^2 - 5x + k$, such that $\alpha^2 + \beta^2 = 41$. Find the value of k.

a. 15 b. 24

c. 20 d. 25