

Learnzy Academy

Worksheet: Polynomials

1. If $x + 2$ is a factor of $x^3 - 2ax^2 + 16$, then value of a is
2. Factorise $64m^3 - 343n^3$
3. Find the value of $9x^2 + 4y^2$ if $xy = 6$ and $3x + 2y = 12$.
4. If $(x - 1/x) = 4$, then evaluate $(x^2 + 1/x^2)$ and $(x^{\blacksquare} + 1/x^{\blacksquare})$.
5. If the zeroes of the quadratic polynomial $p(x) = ax^2 + bx + c$ are reciprocal of each other, prove that $c = a$.
6. If one of the factor of $x^2 + x - 20$ is $(x + 5)$. Find the other
7. Factorise: $(a - b)^3 + (b - c)^3 + (c - a)^3$
8. The value of 104×96 is
9. Find the zeroes of the polynomial: $p(x) = x^2 - 7x + 10$ and verify the relation between zeroes and coefficients.
10. Find the values of a and b so that $(2x^3 + ax^2 + x + b)$ has $(x + 2)$ and $(2x - 1)$ as factors.
11. Calculate the perimeter of a rectangle whose area is $25x^2 - 35x + 12$
12. α and β are zeroes of the quadratic polynomial $x^2 - 6x + y$. Find the value of 'y' if $3\alpha + 2\beta = 20$
13. Find a quadratic polynomial whose zeroes are 5 and -3 .
14. If one zero of the polynomial $(a^2 + 9)x^2 + 13x + 6a$ is the reciprocal of the other, find the value of a .
15. Find the quadratic polynomial if its zeroes are 0 and $\sqrt{5}$.
16. Using a suitable identity, determine the value of $(17)^3 + (-12)^3 + (-5)^3$
17. Find the value of $x^3 + y^3 + z^3 - 3xyz$ if $x + y + z = 15$ and $x^2 + y^2 + z^2 = 83$
18. Find the value of $x^3 + y^3 + z^3 - 3xyz$ if $x^2 + y^2 + z^2 = 83$ and $x + y + z = 15$
19. Check whether $(7 + 3x)$ is a factor of $(3x^3 + 7x)$.
20. If $x + y = 12$ and $xy = 32$, Find the value of $x^2 + y^2$