

NEW STANDARD ACADEMY

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CLASS 10 (Maths) DPP (Academy)

- The number of real roots of equation $(a^2+b^2)x^2+2a((\sqrt{b^2+c^2})x+a^2+c^2)=0$ where, a, b and c are non-zero is .
- The equation has $x-\frac{2}{x-1}=1-\frac{2}{x-1}$: find the root
- Let α, β be the roots of the equation $(x-a)(x-b)+k=0$.find the roots of the equation $(x-\alpha)(x-\beta)+c=0$ are:
- The equation has $\sqrt{x+1}-\sqrt{x-1}=\sqrt{4x-1}$:
- If the ratio of the roots of the equation $x^2+bx+c=0$ is the same as that of $x^2+qx+r=0$, then:
- The ratio of the roots of $lx^2+nx+n=0$ is $p:q$ then:
- The real roots of the equation $x^{2/3}+x^{1/3}-2=0$ are:
- If one root of $ax^2+bx+c=0$ is equal to n^{th} power of the other, then $(ca^n)^{1/(n+1)}+(a^n c)^{1/(n+1)}$:
- If α, β are the roots of the equation $ax^2+bx+c=0$, then $\frac{\alpha}{a\beta+b}+\frac{\beta}{a\alpha+b} =$
- A chess board contains 64 equal squares and the area of each square is 6.25 cm². A border round the board is 2cm wide. Find the length of the side of chess board.
- Two goods train each 500m long, are running in opposite directions on parallel tracks. Their speeds are 45km/hr and 300 km/hr respectively. Find the time taken by the slower train to pass the driver of the faster one.
- If $(x+k)$ is a common factor of (x^2+px+q) and (x^2+lx+m) then the value of k is:
- A man takes half time in rowing a certain distance downstream than upstream. What is the ratio of the speed of boat in still water to the speed of current?
- If both the roots of the equation $x^2-2mx+m^2-1=0$ are greater than -2 but less than 4, then:
- For the distinct real numbers a, b, c and $a \neq 0$, consider the equation $ax^2+bx+c=0$. If $a+b+c=0$; then the solutions of the quadratic equation are:
- If $(x-\frac{1}{2})^2-(x-\frac{3}{2})^3=x+2$, then $x=?$
- If $\alpha\beta\gamma$ are the roots of the equation $2x^3-3x^2+6x+1=0$, then $\alpha^2+\beta^2+\gamma^2$ is equal to
- Two water taps together can fill a tank in $9\frac{3}{8}$ hours. The pipe of larger diameter takes 10 hours less than the smaller one to fill the tank separately. Find the time in which each tap can separately fill the tank.
- If $x=\sqrt{7+4\sqrt{3}}$, then $x+\frac{1}{x}$
- Sum of the areas of two squares is 468 m². If the difference of their perimeters is 24m, find the side of the two squares.

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CLASS 09 (Maths) DPP (Academy)

1. Write the degree of the polynomials $5x^3+4x^2+7x$:
2. Verify whether the zeroes of the polynomial $p(x) = 3x+1, x = -\frac{1}{3}$ is.
3. Find the remainder when x^3+3x^2+3x+1 is divided by $x+1$:
4. Evaluate 104×96 without multiplying directly.
5. Expand the $(3a-7b-c)^2$ using suitable identities:
6. Evaluate the cubes in expanded form $(99)^3$:
7. Factorise : $27x^3+y^3+z^3-9xyz$
8. The expression $(a+b+c)^2+(a+b-c)^2+(a-b+c)^2+(b+c-a)^2$ equal:

9. Remainder when $a^2+b^2+(ab+bc+ca)$ is divided by $(a+b+2c)$ is:
10. If $x = 2\sqrt{2} + \sqrt{7}$, identify the value of $\frac{1}{2}\left(x + \frac{1}{x}\right)$
11. Identify the remainder when $1+x+x^2+x^3+\dots\dots\dots+x^{2012}$ is divided by $x-1$
12. The degree of the polynomial $3x^2+12-(\sqrt{3}x + \sqrt{12})^2 + 12x+4$ is
13. Find the numerical value of A:B where
 $A\left(\frac{x^m}{x^n}\right)^{m+n-l} \times \left(\frac{x^n}{x^l}\right)^{n+l-m} \times \left(\frac{x^l}{x^m}\right)^{l+m-n}$ and
 $B=(x^{1/a-b})^{1/a-c} \times (x^{1/b-a})^{1/b-a} \times (x^{1/c-a})^{1/c-a}$; a,b,c being all different
14. If $(x-1), (x+1)$ and $(x-2)$ are factors of $x^4+(p-3)x^3-(3p-5)x^2+(2p-9)x+6$, then the value of p is
15. $8(a-2b)^2-2a+4b-1$
16. If $x-\frac{1}{x} = 9$ then value of $x^2 + \frac{1}{x^2}$ is
17. If $a^2-b^2=21$ and $a^2+b^2=29$, which of the following could be the value of ab ?
18. If $a^4 + \frac{1}{a^4} = 119$, then find the value of $a^3 - \frac{1}{a^3}$
19. If $x+\frac{1}{x}=a+b$ and $x-\frac{1}{x}=a-b$ then
20. If $(a^2+b^2)^3 = (a^3+b^3)^2$ then $\frac{a}{b} + \frac{b}{a} =$