M A T H E M A T I C S

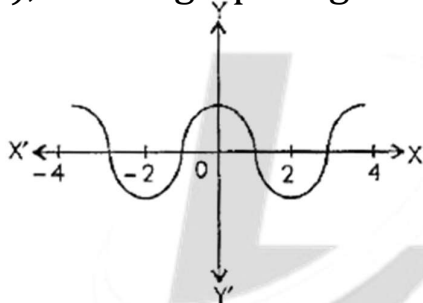**(DAILY PRACTICE PAPER)**   **POLYNOMIAL**

CLASS - 10

General Instructions:
1. All Questions are compulsory.
2. Draw neat figures wherever required.

Section A (1x10-10)

1. Find the number of zeroes lying between -4 to 4 of the polynomial f (x), whose graph is given below.

2. How many zeroes, the polynomial p (x) = $(x-2)^2$-4 can have?
3. Identify, which of the following is not irrational?
    (2+√5) or (2-√5) or (2+√5) (2-√5) or 2√5
4. If two positive integers a and b are written as a = x^2y and b = x^2y^3, where x, y are prime numbers, then find HCF(a,b).
5. How many solutions are possible for the pair of equations y = 0 and y = -7?
6. If the system of equations 3x+y=1 and (2k-1)x + (k-1)y = 2k+1 is inconsistent, then find k?
7. What is the nature of the graphs of system of equations having infinitely many solutions?
8. Find the zeroes of the quadratic polynomial x^2-3x-4.
9. If product of two numbers is 5780 and their HCF is 17, then find their L.C.M.
10. If the sum of the zeroes of the quadratic polynomial x^2-2kx+8 is 2 then what is the value of k.

Section B (2x4=8)

11. Express 3276 as a product of its prime factors.
12. Given that $\sqrt{3}$ is irrational, prove that $5 + 2\sqrt{3}$ is irrational.
13. For what values of k will the following pair of linear equations have infinitely many solutions?

    kx+3y-(k-3)=0   12x+ky-k=0.

14. Find a quadratic polynomial the sum and product of whose zeroes are 3 and -2/5 respectively.

OR

14. Find a quadratic polynomial whose zeroes are 5-3$\sqrt{2}$ and 5+3$\sqrt{2}$.
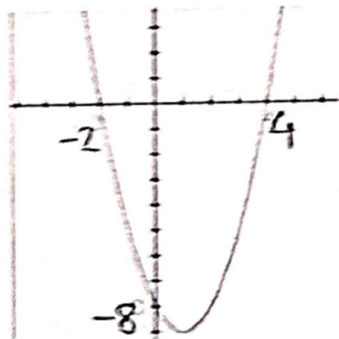
Section C (3x3=9)

15. Solve $2x + 3y = 11$ and $2x - 4y = -24$ and hence find the value of 'm' for which $y = mx+3$.
16. Prove that $\sqrt{2}$ is irrational.

or

16. Check whether 4" can end with the digit 0 for any natural number "n".
17. Find the zeroes of the quadratic polynomial $6x^2-3-7x$ and verify the relationship between the zeroes and the coefficients.

Section D (3x5=15)

18. a) On a morning walk three persons step off together and their steps measure 40 cm, 42 cm, 45 cm, what is the minimum distance each should walk so that each can cover the same distance in complete steps?
    b) There are 576 boys and 448 girls in a school that are to be divided into equal sections of either boys or girls alone. Find the total number of sections thus formed.

19. If a and β are zeroes of the polynomial $x^2 - 5x + 4$, then find the value of -

    a) $1/a + 1/β$ b) $(a - β)$

20. A number consists of two digits. When the number is divided by the sum of its digits. the quotient is 7. If 27 is subtracted from the number, the digits interchange their places. Find the number.

<div align="center">OR</div>

20. Draw the graphs of $x - 3y = 6$ and $2x - 3y = 12$. Shade the area bounded by these lines and the x-axis.

<div align="center">

Section E (2x4=8)

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21. Basketball and soccer are played with a spherical ball. Even though an athlete dribbles the ball in both sports, a basketball player uses his hands and a soccer player uses his feet. Usually, soccer is played outdoors on a large field and basketball is played indoor on a court made out of wood. The projectile (path traced) of soccer ball and basketball are represented by a quadratic polynomial.

    1) The graph of parabola opens upwards, if _____

    2) In the graph, how many zeroes are there for the polynomial?

    3) The two zeroes shown on the graph above are _____

22. A test consists of 'True' or 'False' questions. One mark is awarded for every correct answer while ¼ mark is deducted for every wrong answer. A student knew answers to some of the questions. Rest of the questions he attempted by guessing. He answered 120 questions and got 90 marks.

Type of question	Marks given for correct answer	Marks deducted for wrong answer
True/False	1	0.25

1. If answer to all questions he attempted by guessing were wrong, then how many questions did he answer correctly?

2. How many questions did he guess?

3. If answer to all questions he attempted by guessing were wrong and answered 80 correctly, then how many marks he got?

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