

Mathematics (New)9th (Fresh/Reappear)

۱۔ ہر سوال کے سامنے چار دائرے دیئے گئے ہیں، صرف صحیح جواب دائرہ بھر دیں۔

۲۔ دائروں کو شیڈ (بھرنے) کے لیے نیچے دیئے گئے دائرے کا دائرہ استعمال کریں۔

۳۔ جواب ہی ایک سے زائد دائرے بھرنے سے جواب غلط تصور ہو گا۔

Time: 20 Minutes

SECTION-A

Marks: 15

Q1: Choose the correct option i.e, A,B,C or D?

1. $(m+n)^2 + (m-n)^2 =$

☐ $2(m^2 + n^2)$

☒ $2(m^2 - n^2)$

☐ $4mn$

☐ $m^4 - n^4$

2. What is the remainder when $3x^2 + 2x - 5$ is divided by $x+2$?

☐ -11

☒ -3

☐ 3

☐ 11

3. The LCM of $x^2 - 9$ and $(x-3)^2$ is.

☐ $x-3$

☒ $(x-3)^2$

☐ $(x+3)(x-3)$

☐ $(x+3)(x-3)^2$

4. The absolute value of -3 is.

☐ -9

☐ -3

☒ 3

☐ 9

5. The point (6,9) lies in.

☒ 1st quadrant

☐ 2nd quadrant

☐ 3rd quadrant

☐ 4th quadrant

6. The exponential form of $\sqrt[4]{(3x+2)^5}$ is.

☐ $(3x+2)^{20}$

☒ $(3x+2)^{\frac{5}{4}}$

☐ $(3x+2)^{\frac{4}{5}}$

☐ $(3x+2)^9$

7. The index of the radical in the expression $\sqrt[13]{9x^5}$ is.

☐ $\sqrt{}$

☐ 13

☐ 269

☒ 5

8. The imaginary part of the complex number $-7-4i$ is.

☐ 7

☐ 4

☒ -4

☐ -7

9. The conjugate of the complex number $-7-4i$ is.

☐ $7-4i$

☒ $-7+4i$

☐ $7+4i$

☐ $-7-4i$

10. In scientific notation, 0.00056 is written as.

☐ 5.6×10^4

☐ 5.6×10^5

☒ 5.6×10^{-4}

☐ 56×10^{-5}

11. The pair of matrices which is conformable for multiplication is.

☐ $\begin{bmatrix} 12 & 13 \end{bmatrix}$ and $\begin{bmatrix} 12 & 13 \end{bmatrix}$

☒ $\begin{bmatrix} 12 \\ 13 \end{bmatrix}$ and $\begin{bmatrix} 12 \\ 13 \end{bmatrix}$

- ☐ $\begin{bmatrix} 12 & 13 \\ 14 & 15 \end{bmatrix}$ and $\begin{bmatrix} 12 \\ 13 \end{bmatrix}$
☐ $\begin{bmatrix} 12 & 13 \\ 14 & 15 \end{bmatrix}$ and $\begin{bmatrix} 12 & 13 \end{bmatrix}$
12. If $D = \begin{bmatrix} 6 & -2 \\ 2 & 1 \end{bmatrix}$ then $|D| = s$.
☒ 10 ☐ 2 ☐ -2 ☐ -10
13. The adjoint of the matrix $\begin{bmatrix} 7 & 10 \\ -5 & 4 \end{bmatrix}$ is.
☐ $\begin{bmatrix} -7 & -5 \\ 10 & -4 \end{bmatrix}$ ☐ $\begin{bmatrix} -7 & -10 \\ 5 & -4 \end{bmatrix}$ ☒ $\begin{bmatrix} 4 & -5 \\ 10 & 7 \end{bmatrix}$ ☐ $\begin{bmatrix} 4 & -10 \\ 5 & 7 \end{bmatrix}$
14. Which of the given is the decimal representation of $\frac{12}{11}$?
☐ 1.09 ☐ $1.\overline{09}$ ☒ 0.916 ☐ $0.91\overline{6}$
15. The additive inverse of -13 is.
☐ $-\frac{1}{13}$ ☐ 0 ☒ 1 ☐ 13

MATHEMATICS 9th (Fresh/Reappear)

Note: Time allowed for Section-B & Section-C is 2 Hours and 40 Minutes.

SECTION-B

Marks: 36

Q2: Attempt any NINE parts. Each part carries FOUR marks?

- Find P^{-1} using adjoint method when $P = \begin{bmatrix} 5 & 4 \\ 1 & 2 \end{bmatrix}$?
- Simplify the given expression $\left(\frac{m^a}{m^b}\right)^{a+b} \cdot \left(\frac{m^b}{m^c}\right)^{b+c} \cdot \left(\frac{m^c}{m^a}\right)^{c+a}$?
- Simplify with the help of logarithm $\frac{4.23 \times 2.17}{1.93}$?
- If $q + \frac{1}{q} = -5$, then find the value of $q^3 + \frac{1}{q^3}$?
- If $y = \sqrt{10} + 3$, then find the value of $y - \frac{1}{y}$?
- Factorize $4y^2 + 8y + 3$?
- Find the square root of $16y^2 + 24yz + 9z^2$ by factorization method?
- Solve and verify $\sqrt{8y-6} = \sqrt{4y+10}$?

9. Solve and plot on number line $3(t-3) > 3$?
10. Using distance formula, shows that the point $A(0,4)B(\sqrt{48},0),C(0,4)$ are the vertices of an equilateral triangle?
11. Prove that: If two angles of a triangle are congruent, then the sides opposite to them are also congruent?
12. Prove that the opposite sides of a parallelogram are congruent?

SECTION-C

Marks: 24

Q3: Attempt any FOUR questions. All question carry equal marks?

1. Prove that the right bisectors of the sides of a triangle are concurrent?
2. Prove that the sum of the lengths of any two sides of a triangle is greater than the length of the third side?
3. Prove that the measures of the corresponding sides of two similar triangles are proportional?
4. Length of a side of an equilateral triangle is 10cm. Find the length of the altitude?
5. Prove that the triangles on the same base and of the same altitude are equal in area?
6. Construct a triangle ABC, in which $\overline{mAB} = 5\text{cm}$, $m\angle A = 60^\circ$, and $m\angle B = 45^\circ$?

