LUCKNOW PUBLIC SCHOOLS & COLLEGES

CLASS - IX (ICSE)

MCQ EXAMINATION : 2018-19

Candidate's Name in CAPITAL letters | Sec.

Branch

Roll No. : | Candidate's Signature | Invigilator's Signature

INSTRUCTIONS FOR OMR SHEET:-

1. **Attempt ALL the questions.**
2. **Use only black or blue (ball pen) for darkening/writing in appropriate oval/box.**
3. **While darkening the oval / box it is to be ensured that these are darkened completely.**
4. **OMR sheet shall not be folded or tampered in any way.**
5. **Over writing / erasing / dual data & use of correction fluid will render OMR sheet invalid.**

TIME : 2 Hrs. M.M. : 100

Subject : MATHEMATICS

Q.1. Value of $2\sqrt{5}+\sqrt{5}$ is equal to :

a) $2\sqrt{10}$ b) 10

c) $5\sqrt{5}$ d) $3\sqrt{5}$

Q.2. If x is rational and y is irrational then which of the following is a rational number ?

a) x+y b) x-y

c) y-x d) none of these

Q.3. Which among the following is rational number?

a) $\sqrt{5}$ b) $\sqrt{7}$

c) $\sqrt{9}$ d) none of these

Q.4. On rationalising the denominator of $\frac{1}{2\sqrt{3}+\sqrt{7}}$ we get :

a) $\frac{2\sqrt{3}-\sqrt{7}}{5}$ b) $\frac{2\sqrt{3}+\sqrt{7}}{5}$

c) $2\sqrt{3}-\sqrt{7}$ d) $2\sqrt{3}+\sqrt{7}$

Q.5. The number $\left(2+\sqrt{3}\right)^2$ is :

a) an irrational number

b) an integer

c) a natural number

d) a rational number

Space for rough work

Q.6. Which statement is correct -
Between two rational numbers :
a) there is no rational number
b) there is exactly one rational number
c) there are infinitely many rational numbers
d) there are only rational numbers and no irrational number

Q.7. Which among the following is smallest number?
a) $4\sqrt{5}$ b) $5\sqrt{3}$
c) 10 d) $6\sqrt{2}$

Q.8. S.I. (simple interest) and C.I. (compound interest) are equal on the same sum and at the same rate for :
a) first conversion period
b) second conversion period
c) third conversion period
d) none of these

Q.9. Compound interest on ₹10000 for 1 year at an annual rate of 10% compounded semi annually is :
a) ₹ 1000 b) ₹ 1050
c) ₹ 1025 d) ₹ 11025

Q.10. If r% is the rate of growth per year, n is the number of years, V_0 is the present measure of the quantity and V is the measure of quantity after n years, then which is correct statement?

a) $V = V_0\left(1+\frac{r}{100}\right)^n$

b) $V_0 = V\left(1+\frac{r}{100}\right)^n$

c) $V = V_0\left(1-\frac{r}{100}\right)^n$

d) $V_0 = V\left(1-\frac{r}{100}\right)^n$

Q.11. If $x+y=11$ and $xy=24$ then x^2+y^2 is equal to :
a) 121 b) 48
c) 73 d) 169

Q.12. If $a+2b+3c=0$ then value of $(a)^3+(2b)^3+(3c)^3$ is :
a) 12 abc b) 18 abc
c) 24 abc d) 36 abc

Q.13. What will be the value of $(x+y)^2+(x-y)^2$?
a) 0 b) xy
c) 4 xy d) $2(x^2+y^2)$

Q.14. The coefficient of x^2 in the product of $(x-5)(x+3)(x+7)$ is :
a) -29 b) 5
c) 4 d) -5

Q.15. Expansion of $(2x-1)^3$ is :
a) $8x^3-1-12x^2+6x$
b) $8x^3+1+12x^2+6x$
c) $8x^3-1+12x^2-6x$
d) None of these

Q.16. If $a+b+c=p$, $ab+bc+ca=q$ and $a^2+b^2+c^2=r$ then :
a) $r^2 = 2p+q$
b) $q^2 = p+2r$
c) $p^2 = r+2q$
d) none of these

Q.17. Factorization of $15ab^2-21a^2b$ is :
a) $3a^2b^2(5a-7b)$
b) $3ab(7a-5b)$
c) $3ab(5b-7a)$
d) $3ab(5b-7a)$

Q.18. Factorisation of x^3-3x^2+x-3 is :
a) $(x^2+1)(x-3)$
b) $(x^2+1)(x+3)$
c) $(x^2-1)(x+3)$
d) $x^3(4x+6)$

Q.19. Factorisation of $(x+y)^2-9$ is :

a) $(x+y+9)(x-y-9)$

b) $(x-y+9)(x-y-9)$

c) $(x+y+3)(x-y-3)$

d) $(x+y+3)(x+y-3)$

Q.20. Factorisation of $a^2 - 3a - 10$ is :

a) $(a-5)(a+2)$

b) $(a+5)(a-2)$

c) $(a-5)(a-2)$

d) none of these

Q.21. Factorisation of $x^3 + y^3$ is :

a) $(x-y)^3$

b) $(x+y)^3$

c) $(x+y)(x^2+y^2-xy)$

d) none of these

Q.22. Factorization of $(4x)^3-(5y)^3$ is :

a) $(4x-5y)(16x^2+25y^2+40xy)$

b) $(4x+5y)(16x^2+25y^2-20xy)$

c) $(4x+5y)(16x^2+25y^2+40xy)$

d) $(4x-5y)(16x^2+25y^2+20xy)$

Q.23. Solution of $x+y=14$ and $x-y=4$ is :

a) $x=9, y=2$ b) $x=9, y=5$

c) $x=9, y=-5$ d) $x=9, y=-2$

Q.24. If $x=4$, $y=k$ is a solution of equation $2x+3y=14$ then the value of k is :

a) 2 b) 3

c) 4 d) 5

Q.25. From the equation $3x+2y=13$ the value of y will be :

a) $\frac{13+3x}{2}$ b) $\frac{13-3x}{2}$

c) $\frac{13+2x}{3}$ d) $\frac{13-2x}{3}$

Q.26. If the values of x and y obtained from two equations do not satisfy the third equation, then the three equations cannot hold simultaneously we conclude that the three equations are :

a) consistent b) inconsistent

c) concurrent d) none of these

Q.27. If A can do the work in x days and B can do the same work in y days. Their 3 days work will be :

a) $3(x+y)$ b) $\frac{3x}{y}$

c) $3\left(\frac{1}{x}-\frac{1}{y}\right)$ d) $3\left(\frac{1}{x}+\frac{1}{y}\right)$

Q.28. A two digit number has tens place digit as x and unit place digit as y. The sum of number and the number obtained on reversing digits will be :

a) $9x+9y$ b) $11x+11y$

c) $2x+2y$ d) none of these

Q.29. A man has 'x' notes of denomination ₹ 20 and 'y' notes of denomination ₹ 5. If he has ₹ 380 in all then its equation will be :

a) $5x+20y=380$

b) $5x-20y=380$

c) $20x+5y=380$

d) none of these

Q.30. If a, b are rational numbers and m, n are integers, then which is incorrect relation :

a) $a^m \times a^n = a^{m+n}$

b) $(a^m)^n = a^{mn}$

c) $a^m.b^m=(ab)^m$

d) none of these

Q.31. Value of $\sqrt[3]{27^{-1}}$ is :

a) $1/3$ b) $1/9$

c) $-1/9$ d) 3

Q.32. Value of x in the equation $4^x = \frac{1}{16}$ is :

a) -2 b) 2

c) 4 d) -4

Q.33. Value of $5^0 \times 4^{-1} + 8^{1/3}$ will be :

a) 2 b) 4

c) $3\frac{1}{4}$ d) $2\frac{1}{4}$

Q.34. If $(10)^y = 0.001$, then value of y is :

a) -2 b) -3

c) 2 d) 3

Q.35. If $7^{3x+4} = 1$, then value of x is :

a) $-\frac{4}{3}$ b) $-\frac{3}{4}$

c) $\frac{4}{3}$ d) none of these

Q.36. Value of $\frac{7x}{y^{-1}} + \frac{2y}{x^{-1}}$ is :

a) -9xy b) -9

c) 9xy d) 9

Q.37. Value of $(3x^4 y^3)(18x^3 y^{-5})$ is :

a) $\frac{54x^7}{y^2}$ b) $\frac{54x^{12}}{y^2}$

c) $\frac{21x^7}{y^2}$ d) none of these

Q.38. Logarithmic form of $a^n=b$ is :

a) $\log_a b=n$ b) $\log_a n=b$

c) $\log_n b=a$ d) none of these

Q.39. Exponential form of $\log_a x=y$ is :

a) $x^y=a$ b) $x^a=y$

c) $a^x=y$ d) $a^y=x$

Q.40. Which of the following is not correct?

a) $\log_a m^n = n\log_a m$

b) $\log_b a \times \log_a b = 1$

c) $\log_a mn = \log_a m + \log_a n$

d) none of these

Q.41. If $\log_{10}(2x-3)=1$, then value of x is :

a) $5\frac{1}{2}$ b) $6\frac{1}{2}$

c) 10 d) 0

Q.42. Value of $\log a^5 \div \log a^3$ is :

a) $\frac{a^5}{a^3}$ b) $\frac{5a}{3}$

c) $\frac{5}{3}$ d) none of these

Q.43. Value of $\log_{10} 1000 - \log_{10}$ is :

a) $\log_{10} 990$ b) $\log_{10} 10000$

c) 2 d) 1

Q.44. Value of $\log_{10} 2+1$ is :

a) $\log_{10} 20$ b) $\log_{10} 3$

c) $\log_{10} 21$ d) none of these

Q.45. The centroid of a triangle divides every median in the ratio of :

a) 1 : 1 b) 3 : 1

c) 4 : 1 d) 2 : 1

Q.46. The centre of a circle which passes through the vertices of a triangle is called :

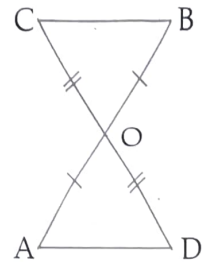
a) orthocentre

b) incentre

c) cicumcenter

d) none of these

Q.47. In the given figure OA=OB and OD=OC criteria for $\Delta AOD \cong \Delta BOC$ is :



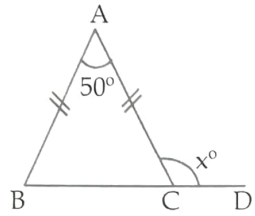
a) SAS

b) ASS

c) SSS

d) RHS

Q.48. In the figure value of x is :



a) 75°

b) 85°

c) 105°

d) 115°

Q.49. It is not possible to construct a triangle when the lengths of its sides are :

a) 3cm, 4 cm, 5 cm

b) 4cm, 6 cm, 6cm

c) 2cm, 3cm, 5 cm

d) none of these

Q.50. In ΔPQR, if $\angle R > \angle Q$, then :

a) QR>PR

b) PQ>PR

c) PQ<PR

d) QR<PR

Q.51. The quadrilateral formed by joining the mid points of the sides of a rectangle, taken in order, is a :

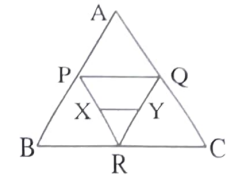
a) rhombus

b) rectangle

c) square

d) none of these

Q.52. In the figure P and Q are respectively the mid points of sides AB and AC. If X and Y are respectively mid points of side PR and QR then :



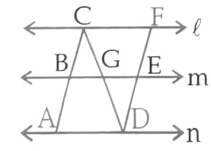
a) $XY = \frac{1}{3}BC$

b) XY=2PQ

c) $XY = \frac{1}{4}BC$

d) none of these

Q.53. In the figure $\ell \| m \| n$ and B is mid point of AC. If GE=4.2 cm then CF is equals to :



a) 8.4 cm

b) 2.1 cm

c) 6.3 cm

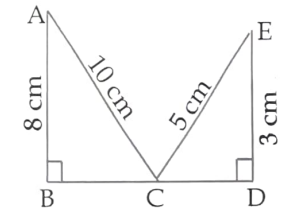
d) none of these

Q.54. In the above figure, if AB=4cm, then AC equals to :

a) 6 cm b) 5 cm

c) 4 cm d) 8 cm

Q.55. In the figure value of BD will be :



a) 12 cm

b) 10 cm

c) 11 cm

d) 13 cm

Q.56. Foot of a ladder leaning against a vertical will is 'a' m away from the foot of the wall. If ladder reaches 'a' m high on the wall from the ground, then the length of ladder is :

a) $a\sqrt{2}$ m b) $a\sqrt{3}$ m

c) 2a m d) $\frac{1}{2}$ a m

Q.57. The lengths of diagonals of a rhombus are 16 cm and 12 cm . The length of the side of the rhombus is :

a) 10 cm b) 11 cm

c) 12 cm d) none of these

Q.58. If the sides of rectangular plot are 15 m and 8m, then the length of its diagonals is :

a) $\sqrt{161}$ m b) 12 m

c) 18 m d. none of these

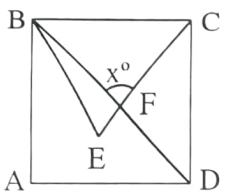
Q.59. BEC is an equilateral triangle in the square ABCD. value of x will be :

a) 75°

b) 60°

c) 45°

d) 55°



Q.60. If all the angles of a parallelogram are equal then it is a :

a) rhombus b) square

c) rectangle d) kite

Q.61. Which among the following is not the property of rhombus :

a) all sides are equal

b) diagonals bisect at right angles

c) diagonals bisect the angle of rhombus

d) none of these

Q.62. If opposite angles of a parallelogram are $(3x-2)^0$ and $(63-2x)^0$, then value of x is :

a) 10 b) 13

c) 15 d) 18

Q.63. If the diagonals of a quadrilateral PQRS bisect each other, then the quadrilateral PQRS must be a :

a) parallelogram

b) rhombus

c) rectangle

d) square

Q.64. The three angles of a quadrilateral are 75°, 90° and 85°. The fourth angle is :

a) 110° b) 100°

c) 120° d. 90°

Q.65. The ratio $\frac{\text{base}}{\text{perpendicular}}$ in a right angled triangle is called :

a) tanθ b) secθ

c) cotθ d) cosecθ

Q.66. Identify the incorrect relation :

a) $\tan\theta = \frac{\sin\theta}{\cos\theta}$

b) $\tan\theta \times \cot\theta = 1$

c) $\sin^2\theta+\cos^2\theta = 1$

d) none of these

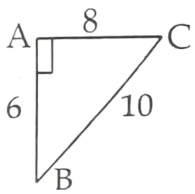
Q.67. From the figure value of tan C is :

a) $\frac{6}{8}$

b) $\frac{8}{6}$

c) $\frac{6}{10}$

d) $\frac{10}{6}$



Q.68. From the above figure value of sinB+sinC is :

a) $\frac{7}{5}$ b) $\frac{5}{7}$

c) 2 d) 3

Q.69. Value of $\sin\theta \times \cot\theta$ is :

a) tanθ b) secθ

c) cosθ d) cosecθ

Q.70. Value of $\sin^2 30^\circ \cdot \cos^2 45^\circ$ is :

a) $\frac{\sqrt{3}}{4}$ b) $\frac{1}{8}$

c) $\frac{3}{4}$ d) $\frac{4}{3}$

Q.71. If $3\tan^2\theta - 1 = 0$ then value of θ is, given that θ is acute :

a) 45° b) 30°
c) 60° d) not defined

Q.72. Value of $\frac{\sin 40^\circ}{\cos 50^\circ} + 2\frac{\tan 50^\circ}{\cot 40^\circ}$ is :

a) 1 b) 2
c) 3 d) 4

Q.73. If $\sin 54^0 = \frac{1}{\text{cosec}2\theta}$, then value of θ is and $0^\circ < \theta < 90^\circ$

a) 54° b) 42°
c) 24° d) 27°

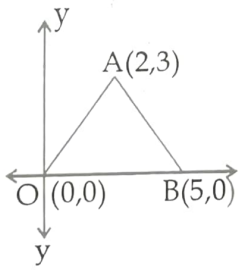
Q.74. Expression $(\sin 80^\circ + \tan 70^\circ)$ in terms of trigonometric ratios of angles between 0° and 45° is :

a) $(\cos 10^\circ + \cot 20^\circ)$
b) $(\text{cosec}\, 10^\circ + \cot 20^\circ)$
c) $(\cos 10^\circ + \sec 20^\circ)$
d) none of these

Q.75. The point which lies on x-axis at a distance of 5 unit in the negative direction of x-axis is :

a) (0, 5) b) (5, 0)
c) (0, –5) d) (–5, 0)

Q.76. In the adjoining figure area of triangle is :



a) 15 sq. units
b) 10 sq. units
c) 7.5 sq. units
d) 2.5 sq. units

Q.77. The distance of the point (4, 2) from the origin is :

a) $\sqrt{20}$ units b) 6 units
c) 2 units d) $\sqrt{12}$ units

Q.78. In the formula $A = \pi R^2$, which is the dependent variable :

a) A b) π
c) R d) 2

Q.79. Abscissa of a point is negative in :

a) I and II quadrants
b) II and III quadrant
c) II quadrant only
d) none of these

Q.80. Point P(x, y) is equidistant from A(2, 0) and A(0, 0) then :

a) x=1 b) x=2
c) x=3 d) x=4

Q.81. The distance of the point P(–4, 3) from the y-axis is

a) 5 units b) –5 units
c) 4 units d) 3 units

Q.82. The information gathered from a source which already had the information stored is called :

a) primary data
b) secondary data
c) frequency
d) range

Q.83. Range of 32, 48, 54, 41, 38, 40, 23, 33, 26, 35 is :

a) 38 b) 23
c) 54 d) 31

Q.84. The mean of 6 observations is 17. If the sum of five of them is 81, then sixth observation is :

a) 23 b) 20
c) 24 d) 21

Q.85. Median of the data 5, 3, 12, 0, 7, 11, 4, 3, 8 is :

a) 5 b) 10
c) 9 d) 7