LUCKNOW PUBLIC SCHOOLS & COLLEGES
CLASS - IX (CBSE)
II - PERIODIC TEST : 2021-22

Sec.

Candidate's Name in CAPITAL letters

Branch

Roll No. : Candidate's Signature

Invigilator's Signature

Date :

Marks Obtained

Time : 1½ Hrs.

M.M. : 40

MATHEMATICS

General Instructions :- (i) The question paper contains three parts A, B and C.
(ii) Section-A consists of 20 questions of 1 mark each. Any 16 questions are to be attempted.
(iii) Section-B consists of 20 questions of 1 mark each. Any 16 questions are to be attempted.
(iv) Section-C consists 10 questions based on two Case Studies. Attempt any 8 questions.
(v) There is no negative marking.
(vi) Fill the correct option in the box given against each question.

SECTION -A

Section -A consists of 20 questions of 1 mark each. Any 16 questions are to be attempted.

Q.1. Between two rational numbers there is /are :

(a) exactly one rational number

(b) infinitely many rational numbers

(c) only one irrational number

(d) only irrational numbers

Q.2. Which of the following is an irrational number ?

(a) $\sqrt{\dfrac{4}{9}}$ (b) $\dfrac{\sqrt{12}}{\sqrt{3}}$ (c) $\sqrt{7}$ (d) $\sqrt{81}$

Q.3. Value of $(2^0 + 3^0 + 5^0)^2$ is :

(a) 9   (b) 3   (c) ⅔   (d) 100

Q.4. Which of the following is not true ?

(a) $a^x \times a^y = a^{xy}$ (b) $a^x \div a^y = a^{x-y}$

(c) $(a^x)^y = a^{xy}$ (d) $(ab)^x = a^x.b^x$

Rough work space

Q.5. Which number does not lie between 2 and 3 ?

(a) $\sqrt{5}$ (b) $\sqrt{7}$ (c) $\sqrt{8}$ (d) $\sqrt{10}$

Q.6. The linear equation $3x-11y=0$ has :

(a) unique solution (b) two solutions

(c) infinite many solutions (d) no solution

Q.7. $x=0$ is the equation of :

(a) x-axis (b) y-axis

(c) line parallel to x-axis (d) line parallel to y-axis

Q.8. The graph of the line $y=2$ passes through the point :

(a) (2, 0) (b) (2, 3) (c) (5, 12) (d) (3, 2)

Q.9. In which quadrant does the point (−7, −4) lie ?

(a) I (b) II (c) III (d) IV

Q.10. The point which lies on y-axis at a distance of 5 units in the negative direction of y-axis is :

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

Q.11. In case of parallel lines, sum of two .... angles is always 180º.

(a) corresponding (b) alternate

(c) vertically opposite (d) none of these

Q.12. Which of the following is not a criterion for congruence of triangles :

(a) SSA (b) SAS (c) ASA (d) SSS

Q.13. Each of the two equal sides of an isosceles right-triangle is 10 cm long. Its area is :

(a) $5\sqrt{10}$ cm² (b) 50 cm² (c) $10\sqrt{3}$ cm² (d) 75 cm²

Q.14. The range of 25, 81, 20, 22, 16, 6, 17, 15, 91 is :

(a) 10 (b) 26 (c) 75 (d) 85

Q.15. Any point on the x-axis of the form :

(a) (x, y) (b) (0, y) (c) (x, 0) (d) (x, x)

Q.16. Two vertically opposite angles measure $(3x+40)º$ and $(5x-10)º$, value of x is :

(a) 25 (b) 30 (c) 20 (d) 35

Q.17. From the figure, $\angle ODC=?$:

(a) 60º (b) 30º

(c) 45º (d) 40º
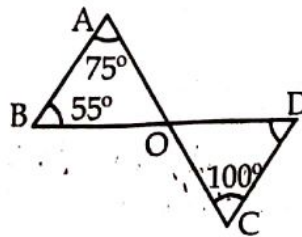
Q.18. If AB=QR, BC=RP and CA=PQ, then

(a) $\triangle ABC \cong \triangle PQR$

(b) $\triangle ABC \cong \triangle QPR$

(c) $\triangle ABC \cong \triangle QRP$

(d) $\triangle ABC \cong \triangle PRQ$

Q.19. Area of a triangle is 'A' and its sides are a, b, c such that a>b>c, shortest altitude will be :

(a) $\dfrac{2A}{a}$

(b) $\dfrac{2A}{b}$

(c) $\dfrac{2A}{c}$

(d) $\dfrac{a}{2A}$

Q.20. In the graphical presentation of data if there are no gaps in between consecutive reactangles, this is called :

(a) bar graph

(b) frequency polygon

(c) ogive

(d) histogram

SECTION - B

Section-B consists of 20 questions of 1 mark each. Any 16 questions are to be attempted.

Q.21. Value of $(243)^{-\frac{3}{5}}$ is :

(a) 27

(b) $\dfrac{1}{27}$

(c) –27

(d) $\dfrac{1}{-27}$

Q.22. $\dfrac{1}{\sqrt{9} - \sqrt{8}}$ is equal to :

(a) 1

(b) 0

(c) $3 - 2\sqrt{2}$

(d) $3 + 2\sqrt{2}$

Q.23. Value of $2\sqrt{2} \times 3\sqrt{3} + 2\sqrt{6}$ is :

(a) $8\sqrt{6}$

(b) $6\sqrt{5}$

(c) $\sqrt{36}$

(d) 48

Q.24. Value of $0.\overline{33}$ is :

(a) $\dfrac{3}{10}$

(b) $\dfrac{0.3}{10}$

(c) 30

(d) $\dfrac{1}{3}$

Q.25. If x=3k+2 and y=2k–1 is solution of x+y=11, then value of k is :

(a) –2

(b) 3

(c) –3

(d) 2

Q.26. Which of the following passes through origin ?

(a) y+2=x

(b) y=3x+0

(c) x+2=y

(d) x+y=7

Q.27. Which of the following is not the solution of linear equation x–y=2 :

(a) (4, 2)

(b) (2, 0)

(c) (2, 4)

(d) (5, 3)

Q.28. Two points are P(3, –5) and Q(2, 1). Value of (ordinate of P) – (abscissa of Q) is :

(a) -7

(b) 7

(c) 5

(d) 3

Q.29. If the perpendicular distance of a point P from x-axis is 7 units, then that point can be

(a) (-3, 7)   (b) (7, 3)   c) (7, 0)   (d) none of these

Q.30. If two angles ∠AOC=4x° and ∠BOC=5x° from a linear pair of angles, then ∠AOC=?

(a) 40°   (b) 60°   c) 80°   (d) 100°

Q.31. In △ABC, ∠A =50°, bisectors of base angles B and C meet at point P inside the triangle then value of ∠BPC is :

(a) 105°   (b) 115°   (c) 110°   (d) 75°

Q.32. The length of each side of an equilateral triangle having area of $9\sqrt{3}$ cm² is :

(a) 8 cm   (b) 9 cm   (c) 10 cm   (d) 6 cm

Q.33. Mid value of a class interval is 42 and the class size is 10. The lower and upper limit will be :

(a) 37-47   (b) 40-50   (c) 37-42   (d) 42-52

Q.34. In the figure, the area of the triangle ABC is :

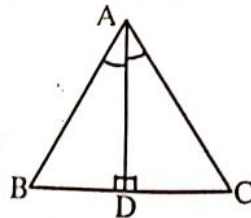(a) 15 sq. units
(b) 10 sq. units
(c) 7.5 sq. units
(d) 5 sq. units
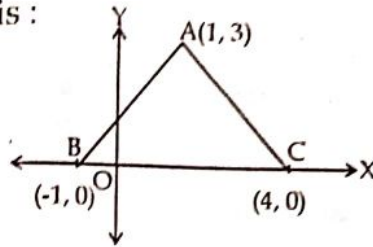
Q.35. The angle which is twice of its complement, is :

(a) 75°   (b) 45°   (c) 30°   (d) 60°

Q.36. In the figure, if AD bisects ∠A and AD⊥BC then, △ABD ≅ △ACD by...

(a) AAA
(b) SSS
(c) RHS
(d) ASA

Q.37. It is given that △ABC ≅ △FDE and AB=5 cm, ∠B=40° and ∠A=80°. Which of the following is true ?

(a) DF=5 cm, ∠F=60°
(b) FD=5 cm, ∠E=60°
(c) DE=5 cm, ∠E=60°
(d) DE=5 cm, ∠D=40°

Q.38. In the figure ∠BAC=∠ADC=90°, AB=24 cm, AC=10 cm, AD=6 cm and CD=8 cm. Area of dotted part is :

(a) 96 cm²
(b) 120 cm²
(c) 48 cm²
(d) none of these
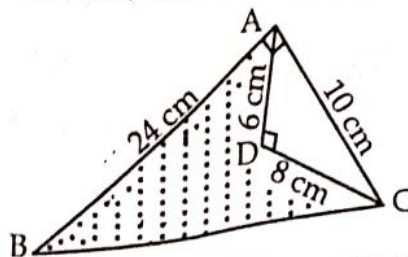
Q.39. Class mark of a frequency distribution are 15, 20, 25, class size is :

(a)   5   (b)   10   (c)   15   (d)   -5   ☐

Q.40. Sides of a triangle are 30 cm, 40 cm and 50 cm. Its area will be :

(a) 1200 cm^2 (b) 600 cm^2

(c) 900 cm^2 (d) 1500 cm^2 ☐

SECTION - C
Case Study based questions.

Section-C consists of 10 questions of 1 mark each. **Any 8 questions are to be attempted.**

Questions 41 - 45 are based on case study -1

Case Study -1

Mahesh, a student of class IX , fixed three nails on the top of the table forming triangle ABC, one more nail was fixed at D so that B, C, D were in a straight line. In this way four angles were formed as shown in the figure.

He found that second angle ($\angle 2$) was three times as first angle ($\angle 1$) and angle three ($\angle 3$) was double the first angle ($\angle 1$)
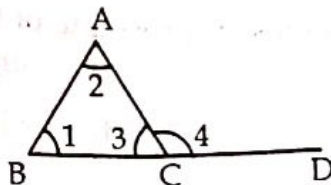
Q.41. Which is the correct relation ?

(a) $\angle 1 + \angle 3 = \angle 4$ (b) $\angle 2 + \angle 3 = \angle 4$

(c) $\angle 1 + \angle 2 = \angle 4$ (d) $\angle 4 + \angle 3 = \angle 2$ ☐

Q.42. What is the value of $\angle 1 + \angle 2 + \angle 3$?

(a)   1 right angle   (b)   2 right angles

(c)   3 right angles   (d)   none of these   ☐

Q.43. Value of $\angle 2$ is

(a)   30°   (b)   60°   (c)   120°   (d)   90°   ☐

Q.44. Value of $\angle 4$ is :

(a)   120°   (b)   90°   (c)   60°   (d)   45°   ☐

Q.45. ∆ABC is .... triangle :

(a)   acute angled   (b)   obtuse angled

(c)   right angled   (d)   isosceles   ☐