

NAAHAR PUBLIC SCHOOL (CBSE) SENIOR SECONDARY, VILLUPURAM
ACADEMIC YEAR (2022-2023)

BYJU'S MOCK TEST

DATE: 17.12.2022

CLASS: IX

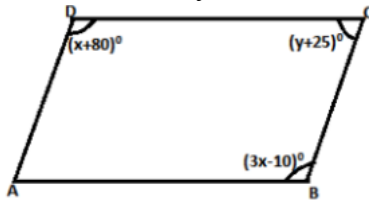
MARKS: 480

SUB: MATHS & SCIENCE

DUR: 3 Hrs

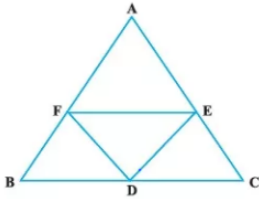
- Can we write 0 in the form of p/q ?
 a. Yes b. No c. Cannot be explained d. None of the above
- The three rational numbers between 3 and 4 are:
 a. $5/2, 6/2, 7/2$ b. $13/4, 14/4, 15/4$ c. $12/7, 13/7, 14/7$ d. $11/4, 12/4, 13/4$
- In between any two numbers there are:
 a. Only one rational number b. Many rational numbers
 c. Infinite rational numbers d. No rational number
- Every rational number is:
 a. Whole number b. Natural number c. Integer d. Real number
- $\sqrt{9}$ is a _____ number.
 a. Rational b. Irrational c. Neither rational or irrational d. None of the above
- Which of the following is an irrational number?
 a. $\sqrt{16}$ b. $\sqrt{(12/3)}$ c. $\sqrt{12}$ d. $\sqrt{100}$
- $3\sqrt{6} + 4\sqrt{6}$ is equal to:
 a. $6\sqrt{6}$ b. $7\sqrt{6}$ c. $4\sqrt{12}$ d. $7\sqrt{12}$
- $\sqrt{6} \times \sqrt{27}$ is equal to:
 a. $9\sqrt{2}$ b. $3\sqrt{3}$ c. $2\sqrt{2}$ d. $9\sqrt{3}$
- Which of the following is equal to x^3 ?
 a. $x^6 - x^3$ b. $x^6 \cdot x^3$ c. x^6/x^3 d. $(x^6)^3$
- Which of the following are irrational numbers?
 a. $\sqrt{23}$ b. $\sqrt{225}$ c. 0.3796 d. 7.478478
- If $x^a + \frac{1}{x^a}$ is a polynomial, what could be the value of a ?
 A. only 1 B. any positive integer
 C. any negative integer D. any integer
- If $ax^2 + bx + c$ is a monomial in x , what can be said about a , b and c ?
 A. Atleast one of a , b and c is non - zero. B. Only one among a , b and c is zero.
 C. Only one among a , b and c is non - zero. D. All three should be non - zero.
- If ax^n is a zero degree polynomial in x , what can be said about a ?
 A. a is negative integer always B. a is 1 always
 C. a is 0 always D. a is non zero
- Find the factors of $x^3 + 2x^2 + 2x + 1$
 A. $(x + 1)$ B. $(x^2 + x + 1)$ C. $(x - 1)$ D. $(x^2 - x + 1)$
- Given the area of rectangle is $A = 25a^2 - 35a + 69$. The length is given as $(5a - 3)$. Find the width of the rectangle.
 A. $5a - 3$ B. $5a - 4$ C. $4a - 5$ D. $a - 4$
- Which of the following are the factors of $1012 - 992$
 A. 101 B. 200 C. 2 D. 9999
- Factor Theorem is equivalent to Remainder Theorem when remainder is
 A. 2 B. 1 C. 0 D. 4
- Select the values which the coefficients and exponents of a polynomial can take?
 (Options are given by comma separating them in the form - (coefficient,exponent))
 A. 1.68686868..., 0 B. 4, -2 C. 0,0 D. -5, -5
- If $f(x) = (x - a)(x - b)$, then if a and b are the zeros of the polynomial $f(x)$, $f(a) = f(b)$.
 A. True B. False
- If ABCD is a parallelogram, then which of the following is true?
 A. $AC=BD$ B. $AB=AC$
 C. $\angle A = 130^\circ$, $\angle C = 130^\circ$, $\angle B = 50^\circ$ D. $AB \perp AD$
- Opposite angles of a parallelogram are equal.
 A. True B. False
- Three angles of a quadrilateral measure 37° , 130° and 53° . Find the measure of the fourth angle.
 A. 40° B. 50° C. 90° D. 140°
- The sum of external angles of a quadrilateral is equal to the sum of its internal angles
 A. True B. False
- If a diagonal of a rectangle is inclined to one side of the rectangle at 35° , then the acute angle between the diagonals is _____.
 A. 35° B. 60° C. 70° D. 80°

25. If opposite angles of a parallelogram are supplementary, then the parallelogram is _____.
 A. Trapezium B. Rectangle C. Rhombus D. Hexagon
26. If the ratio of sides (taken in order) of a quadrilateral is $a:b:b:a$, then it is a
 A. kite B. cyclic quadrilateral C. parallelogram D. square
27. In the given figure, ABCD is a parallelogram. From the given options, select the values of x and y .



- A. $x = 45^\circ$ B. $y = 105^\circ$ C. $y = 30^\circ$ D. $x = 75^\circ$

28. If BDEF and FDCE are parallelograms, then ____ lies equidistant to points B and C.



(Fill in one among A/F/E/D).

29. The sum of angles of a kite is:
 A. 180° B. 360° C. 480° D. 90°
30. Which of the following is not a quadrilateral?
 A. Square B. Circle C. Rhombus D. Trapezium
31. If both pairs of opposite sides of a quadrilateral are parallel, then it is called:
 A. Triangle B. Circle C. Parallelogram D. All of these
32. The three angles of a quadrilateral are 75° , 90° and 75° . The quadrilateral can be a parallelogram.
 A. True B. False
33. In the above figure, ACDF, ABEF and BCDE are parallelograms. Analyse the given figure and choose the correct option(s).
 A. $\angle AFE = x$ B. $\angle FBD = x + y$ C. $\angle BCD = z$ D. $\angle CDG = x + y$
34. The angles of a quadrilateral are in the ratio 1 : 2 : 3 : 4. The angles of the quadrilateral are respectively _____.
 A. 144° , 108° , 60° , 48° B. 36° , 72° , 108° , 144°
 C. 30° , 60° , 90° , 120° D. 10° , 20° , 30° , 40°
35. The quadrilateral formed by joining the mid points of the sides of a quadrilateral, in order, is a _____.
36. Square, rectangle and rhombus are all parallelograms.
 A. True B. False
37. A trapezium is a parallelogram.
 A. True B. False
38. In which of the following ways can four people hold each other's hands to form a quadrilateral?
 A. All four stand in one line
 B. Three stand in one line and one of them out of the line
 C. Two pairs of people stand facing each other
 D. Two pairs of people stand with their back facing and hold hands from behind and side.
39. A parallelogram whose all sides are equal is called a _____.
 A. trapezium B. rhombus C. rectangle D. kite
40. The angles of a quadrilateral are in the ratio 3:4:5:6. Find the angles of the quadrilateral.
 A. 40° , 100° , 80° , 140° B. 60° , 80° , 100° , 120°
 C. 30° , 40° , 50° , 60° D. 10° , 20° , 30° , 40°
41. Any pair of supplementary angles sum up to _____.
 A. 90° B. 180° C. 360° D. 270°
42. Rahul added 5 chocolates to his box of 100 chocolates. His friend Ramu also added 5 chocolates to his own box to get a total of 105 chocolates. How many chocolates did Ramu have in his box before adding 5 chocolates?
 A. 90 B. 110 C. 95 D. 100
43. A straight line is an angle with _____ measurement.
 A. 90° B. 180° C. 360° D. 45°
44. State whether the given statement is true or false.

An axiom is a statement that is obviously true whereas the statements which are particular to Geometry and accepted without question are known as postulates.

A. True B. False

45. If $(a, a/2)$ is a solution of the equation $x + 4y + 5 = 0$. find a .

- (a) $-3/5$ (b) -1 (c) $-5/9$ (d) $-5/3$

46. If a linear equation in x and y reduces to $y - b = 0$ when $x = a$, then which of the following is its solution?

- (a) (a, b) (b) $(0, a)$ (c) $(a, -b)$ (d) $(b, 0)$

47. In a balloon bursting competition for couples, a husband bursts two-thirds the number of balloons his wife bursts. In total they burst 10 balloons. How many linear equations can be written using the given information?

- (a) 2 (b) 1 (c) 3 (d) 0

48. Which of the following is a solution of the equation $4x - y = 13$?

- (a) $x = 4, y = 3$ (b) $x = -2, y = -6$ (c) $x = -1, y = -16$ (d) $x = 5, y = 7$

49. Find the value of k if $x = 3$ and $y = 2$ is a solution of the equation $x + y = 4k$.

- (a) 1.5 (b) 2 (c) 1.25 (d) 1.75

50. Which of the following points lies on the graph of the equation $2y - 7x = 7$?

- (a) $(1, 7)$ (b) $(-1, 7)$ (c) $(1, -7)$ (d) $(7, 1)$

51. The graph of which equation passes through the point $(-1, 2)$?

- (a) $y = 2x - 1$ (b) $y = 3x + 1$ (c) $y = x - 3$ (d) $y = x + 3$

52. If $(5, 2)$ is a solution of the linear equation $ax + by + c = 0$, then $5a + 2b = \dots\dots\dots$

- (a) c (b) $-c$ (c) 0 (d) $7ab$

53. The graph of which of the following equation is parallel to x -axis?

- (a) $x = y$ (b) $x = -3$ (c) $y = -1$ (d) $x = -y$

54. The graph of which of the following equation is perpendicular to x -axis?

- (a) $x = y$ (b) $x = 2$ (c) $y = 3$ (d) $x = -y$

55. In $\triangle NVY$, if $NV = VY$ and $VY \neq YN$, then which of the following is true?

- A. $\angle NVY = \angle VYN$ B. $\angle NVY = \angle YNV$
C. $\angle NVY + 2\angle VYN = 180^\circ$ D. $\angle VYN + 2\angle NVY = 180^\circ$

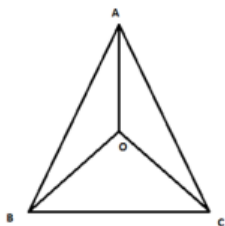
56. Which of the following is sufficient for two triangles denoted by $\triangle 1$ and $\triangle 2$ to be congruent?

- A. Any two sides of $\triangle 1$ should be equal to any two sides of $\triangle 2$
B. All angles of $\triangle 1$ should be equal to all angles of $\triangle 2$
C. Any two sides of $\triangle 1$ and one angle should be equal to any two sides and one angle of $\triangle 2$
D. Any two sides of $\triangle 1$ and the included angle should be equal to any two sides and the included angle of $\triangle 2$

57. If all the sides of $\triangle CAT$ are equal to corresponding sides of $\triangle RAT$, then $\triangle RAT \cong \triangle CAT$.

A. True B. False

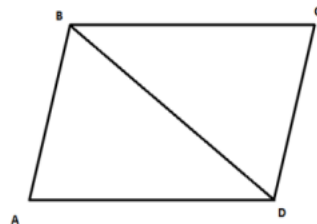
58. In the given figure, $\triangle ABC$ is equilateral with point O as its circumcentre. Here, area of $\triangle BOC =$ area of $\triangle ABC$



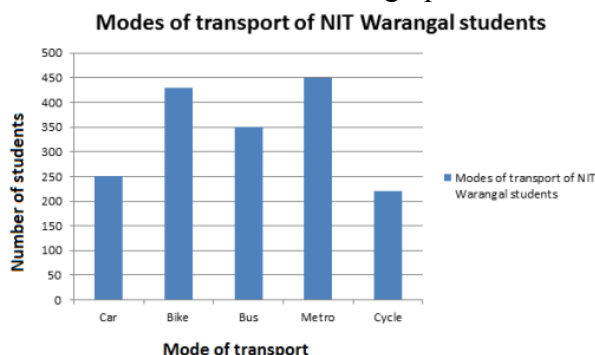
A. True B. False

59. In the given parallelogram ABCD, $\triangle ABD \cong \triangle BCD$.

A. True B. False



60. Modes of transport of 1700 students of NIT Warangal is shown in the graph below. Which of the following options are correct?



- A .350 students prefer to travel by bus.
- B .Cycle is the least preferred mode of transport.
- C .Bike is more preferred as compared to metro.
- D .Car is the most common mode of transport.

SUBJECT: PHYSICS

61. A car of mass 1, 000 kg is moving at a speed of 20 ms^{-1} . It is brought to rest at a distance of 50 m. Calculate the net force acting on the car.
A. 4, 000 N B. 3, 000 N C. 2, 000 N D. 1, 000 N
62. If A and B are two objects of masses 6 kg and 3 kg respectively, then the inertia of object A is more than that of object B.
A. True B. False
63. When a bullet is fired from a pistol, in which direction the pistol moves (ignore the force exerted by hand)?
A. Opposite to the bullet's direction.
B. Perpendicular to the bullet's direction.
C. It will be in the same position as before.
D. Along the bullet's direction
64. When a football player kicks a ball, he experiences a force on his leg which is equal to the force he exerted on the ball.
A. True B. False
- 65.

Calculate the force required to accelerate a car from rest to a velocity of 30 ms^{-1} in 10 seconds. The mass of the car is 1500 kg.

- A. 4000 N B. 3000 N C. 4500 N D. 3500 N
66. A water tanker filled up to two-thirds of its height is moving with a uniform speed. On sudden application of brake, the water in the tank will _____.
A. move backward B. move forward C. rise up D. remain unaffected
67. Jaikishan and Arun are pushing each other as shown in the given figure. Jaikishan's push is weaker than that of Arun. As a result, they move in the direction shown in the figure



- A. Tension force B. Unbalanced force
C. Gravitational force D. Balanced force
68. A cannon ball of mass 2 kg is fired at a target 500 m away. The 400 kg cannon recoils with a velocity of 2 ms^{-1} . Assuming cannon ball moves with constant velocity, when will it hit the target?
A. 1.25 s B. 2 s C. 1.5 s D. 0.2 s
69. Which of the following has SI unit as kg m s^{-2} ?
A. Force B. Momentum C. Acceleration D. Inertia
70. An object moves with an acceleration of 3 m s^{-2} when a force of 30 N is applied. The mass of the body is:
A. 30 kg B. 20 kg C. 40 kg D. 10 kg
71. What is the magnitude of force needed to produce an acceleration of 4 ms^{-2} in a ball of 6 kg?
A. 20 N B. 26 N C. 30 N D. 24 N
72. From a rifle of mass 4 kg, a bullet of mass 50 g is fired with a velocity of 35 ms^{-1} with respect to the ground. Calculate the recoil velocity of the rifle.

- A. 1 ms^{-1}
 B. 0.4375 ms^{-1}
 C. 2.5 ms^{-1}
 D. 0 ms^{-1}

73. When a carpet is beaten with a stick, dust will come out. Why does this happen?
 a) First law of motion b) second law of motion
 c) Third law of motion d) Newton's law cannot explain this behavior
74. While an athlete is running at a constant acceleration of 4.5 ms^{-2} , he exerts a force of 300 N. What is the mass of the athlete?
 A. 64 kg B. 69.6 kg C. 65 kg D. 66.67 kg
75. An object moves with an acceleration of 3 ms^{-2} when a force of 30 N is applied. The mass of the body is ___kg.
 A. 30 B. 10 C. 15 D. 60
76. The SI unit of pressure and thrust are respectively:
 A. Pa and N B. N and Nm^{-1} C. Nm^{-1} and N D. N and Pa
77. Two point objects with different masses are kept at a distance R apart from each other. If the gravitational force between them is F, then:

- A. $F \propto R^2$
 B. $F \propto R^4$
 C. $F \propto \frac{1}{R^2}$
 D. $F \propto \frac{1}{R^4}$

78. If a body of mass m is taken to the bottom of a deep mine, then its ____
 A. mass increases B. mass decreases
 C. weight increases D. weight decreases
79. Archimedes' principle states that the buoyant force exerted on a body immersed in a fluid is equal to the volume of the fluid that the body displaces.
 A. True B. False
80. In which of the following cases does the gravitational force act as the centripetal force?
 A. A ship floating on sea B. Moon revolving round the earth
 C. A leaf falling down D. Earth revolving round the sun

SUBJECT: BIOLOGY

81. According to the five-kingdom system, which kingdom contains organisms whose structure is composed of prokaryotic cells?
 A. Kingdom Fungi B. Kingdom Plantae
 C. Kingdom Monera D. Kingdom Animalia
82. Pteridophytes do not bear flowers and do not produce seeds.
 A. True B. False
83. Gymnosperms have naked seeds.
 A. True B. False
84. Which is the basic unit of Linnaeus's system of classification?
 A. Species B. Genus C. Order D. Family
85. Which of the following kingdoms contain organisms that do not have a defined nucleus?
 A. Protista B. Monera C. Plantae D. Animalia
86. Cell wall of fungi is made up of:
 A. Chitin B. Cellulose C. Pectin D. Hemicellulose
87. Gymnosperms and Angiosperms both produce seeds in different ways. But they are both known as _____.
 A. phanerogams B. cryptogams C. pteridophytes D. bryophytes

88. Sponges have a true body cavity.
A. True B. False
89. Mr Sharma had a little non painful lump in his throat. Later it became painful and cancerous. Which among the following statement is incorrect about cancer?
A. Cancer is a chronic disease. B. Cancer is an acute disease.
C. It continues for long or lifetime. D. It continues to weaken the body
90. Select the incorrect statement about the working of vaccine.
A. The immune system remembers the microbe encountered the first time
B. The immune system acts with more vigour, everytime it encounters a specific microbe
C. Weakened sample of the pathogen is inserted in the body
D. There are vaccines against tetanus and cancer.
91. Which tissue is responsible for the increase in the girth of the stem?
A. Apical meristem B. Cambium C. Intercalary meristem D. Xylem
92. Which of the following is composed of nervous tissue?
A. Brain B. Large intestine C. Stomach D. Small intestine
93. 'X' is a phylum which has organisms with jointed appendages, and a segmented body. 'Y' is a phylum which has organisms with a notochord present at some stages of their life. Identify 'X' and 'Y'.
A. X- Nematoda Y- Protochordata B. X- Molluscs Y- Protochordata
C. X- Arthropoda Y- Nematoda D. X- Arthropoda Y- Protochordata
94. Which of the following pair forms the vascular bundle?
A. Parenchyma and sclerenchyma B. Xylem and parenchyma
C. Xylem and phloem D. Phloem and collenchyma
95. Group of one or more type of similar cells with a similar origin and specialised to perform specific function(s) are called _____.
A. organelles B. tissues C. organs D. organ system
96. Rangappa has a piece of farmland next to the river Krishna, whereas his brother Sangappa has farmland away from the flow of the river. What method of irrigation should Rangappa adopt (A) and what method of irrigation should Sangappa adopt (B)
A. A:River lift irrigation; B:Well irrigation
B. A:Well irrigation; B:Canal irrigation
C. A:Tube well irrigation; B:Drip irrigation
D. A:Canal irrigation; B: Drip irrigation.
97. Identify the type of simple permanent tissue.
(i) The cells of this tissue are dead.
(ii) The cell walls are thickened due to lignin.
A. Parenchyma B. Collenchyma
C. Aerenchyma D. Sclerenchyma
98. Based on which of the following criteria, plant tissues are categorised into meristematic and permanent tissues?
A. Ability to undergo photosynthesis B. Ability to divide actively
C. Ability to move D. Complexity to perform a function
99. Person X is suffering from deficiency of carbohydrates. Which among the following do you suggest him to eat?
A. Wheat B. Black gram C. Pigeon peas D. Ground nuts
100. During the crop cultivation, Rahul observed that plant 'X' was growing along with his crops. He sprayed a chemical 'Y' to remove this plant. Identify X and Y.

- A. X is a weed; Y is a weedicide B. X is a cash crop; Y is an insecticide
 C. X is a fodder crop; Y is a herbicide D. X is a weed; Y is a fertiliser

BY JU'S CHEMISTRY IX

101. In all the three states of water, (i.e. ice, liquid and vapour) chemical composition of water
 (a) is very different (b) remains same
 (c) sometimes same and sometimes different (d) none of the above
102. Which of the following statements is incorrect about the state of matter?
 (a) The force of attraction between the gas particles is very less.
 (b) Plasma consists of super energetic and super excited particles.
 (c) The plasma glows with a special colour depending on the nature of the gas.
 (d) Bose-Einstein condensate is formed by heating gas of extremely low density.
103. Which of the following is not a property of gas?
 (a) Gases have a definite shape
 (b) Gases have no definite volume
 (c) The rate of diffusion of a gas is higher
 (d) Gaseous particles are in a state of random motion
104. A form of matter that has no fixed shape but has a fixed volume. An example of this form of matter is _____
 (a) carbon dioxide (b) ice
 (c) water vapor (d) kerosene
105. When heat is constantly supplied by a burner to boiling water, then the temperature of the water during vaporisation:
 (a) Rises very slowly (b) Rises rapidly until steam is produced
 (c) First rises and then becomes constant (d) Does not rise at all
106. The boiling point of water at sea level is _____
 (a) 0°C (b) 273 K (c) 373 K (d) 273°C
107. The process in which solid is directly converted to vapours state is called _____
 (a) vapourisation (b) solidification
 (c) condensation (d) sublimation
108. The solid which undergoes sublimation is _____
 (a) ice cube (b) naphthalene
 (c) sodium chloride (d) potassium chloride
109. Which of the following phenomena would increase on rising temperature?
 (a) Diffusion, evaporation, compression of gases
 (b) Evaporation, compression of gases, solubility
 (c) Evaporation, diffusion, expansion of gases
 (d) Evaporation, solubility, diffusion, compression of gases
110. What is true about homogeneous mixture?
 (a) Homogeneous mixture is the mixture of two or more than two components.
 (b) In homogeneous mixture the composition and properties are uniform throughout the mixture
 (c) both (a) and (b) are true
 (d) none of the above
111. Which of the following properties does not describe a compound?
 (a) It is composed of two or more elements
 (b) It is a pure substance.
 (c) It cannot be separated into constituents by physical means
 (d) It is mixed in any proportion by mass
112. In the tincture of iodine, find the solute and solvent?
 (a) alcohol is the solute and iodine is the solvent
 (b) iodine is the solute and alcohol is the solvent
 (c) any component can be considered as solute or solvent
 (d) tincture of iodine is not a solution
113. Which of the following is not a homogeneous mixture?
 (a) Air (b) Tincture of iodine (c) Sugar solution (d) milk
114. What is the statement?
 "10 percent glucose in water by mass" signifies.
 (a) 10 gram of glucose dissolved in 100 gram of water.

- (b) 10 gram of glucose dissolved in 90 gram of water.
 (c) 20 gram of glucose dissolved in 200 gram of water.
 (d) 20 gram of glucose dissolved in 90 gram of water.
115. Sol and gel are examples of _____
 (a) Solid-solid colloids
 (b) Sol is a solid-liquid colloid and gel is liquid-solid colloid
 (c) Sol is solid- solid colloid and gel is solid-liquid colloid
 (d) Sol is a liquid-solid colloid and gel is a solid-liquid colloid
116. Solid solution in which the solute is gas _____
 (a) Copper dissolved in gold (b) Camphor in nitrogen gas
 (c) Solution of hydrogen in palladium (d) All of the above
117. An example of liquid metal and liquid non-metal is
 (a) Gallium, mercury (b) Mercury, chlorine
 (c) Mercury, bromine (d) Bromine, sulphur
118. The atomic symbol of silver is _____
 (a) Si (b) S (c) Au (d) Ag
119. A box contains some identical red colour balls labelled as A each weighing 2 g. Another box contains identical blue colored balls, labelled as B, each weighing 5 g. In the combinations AB, AB₂, A₂B and A₂B₃ which is applicable?
 (a) Law of Definite proportion (b) Law of multiple proportion
 (c) Law of conservation of mass (d) None of the above
120. What is the value of Avogadro's number?
 (a) 6.02×10^{-23} (b) 6.02×10^{23} (c) 6.02×10^{-22} (d) 6.02×10^{22}