IPLUS TRAINING SOLUTIONS

KTET CATEGORY 3

MATHEMATICS 2026

TENTATIVE ANSWER KEY

Question Booklet Code C		Question Booklet Code C	
Question No	Correct Option	Question No	Correct Option
71	A	95	A
72	A	96	B
73	D	97	C
74	B	98	B
75	D	99	B
76	C	100	B
77	C	101	B
78	A	102	D
79	C	103	C
80	B	104	D
81	A	105	D
82	A	106	A
83	B	107	A
84	C	108	D
85	D	109	D
86	B	110	B
87	A	111	A
88	C	112	Both B & D
89	C	113	D
90	C	114	B
91	B	115	A
92	C	116	C
93	C	117	D
94	A	118	A

119	A	146	C
120	D	147	D
121	C	148	A
122	B	149	D
123	D	150	D
124	D		
125	A		
126	A		
127	C		
128	D		
129	C		
130	A		
131	C		
132	B		
133	C		
134	A		
135	B		
136	D		
137	C		
138	B		
139	B		
140	B		
141	B		
142	B		
143	C		
144	D		
145	B		

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CATEGORY - III

PART - 3

Mathematics

Question Numbers 71 to 150

71. If $|x+3| = |x-5|$, then x is :

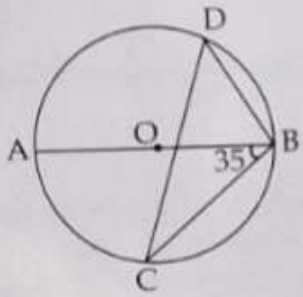
(A) 1

(B) $\frac{1}{2}$

(C) $1\frac{1}{2}$

(D) 0

72. AB is the diameter of the circle. $\angle ABC = 35°$
$\angle CDB =$ _____.



(A) 55

(B) 35

(C) 70

(D) 90

73. Which of the following is not equal to $\sin\theta$?

(A) $\sqrt{1-\cos^2\theta}$

(B) $\tan\theta \times \cos\theta$

(C) $\cos(90-\theta)$

(D) $\frac{\tan\theta}{\cos\theta}$

74. In the polynomial kx^2+2x-5, $x-1$ is a factor of this polynomial. Then $k =$ _____.

(A) 7

(B) 3

(C) -7

(D) -3

75. The length and breadth of a rectangle are in the ratio 7 : 5. Perimeter of the rectangle is 72 meter. The breadth is _____ meter.

(A) 10

(B) 12

(C) 13

(D) 15

76. What is the decimal form of $\frac{2}{100} + \frac{3}{10000}$?

(A) 0.23

(B) 0.023

(C) 0.0203

(D) 0.0023

77. A cube of height 3 centimeter is sliced into unit cubes. What will be the total number of unit cubes ?

(A) 9

(B) 18

(C) 27

(D) 12

78. $(0.333...)^2 =$ _____.

(A) 0.111...

(B) 0.222...

(C) 0.666...

(D) 0.999...

79. $x_1, x_2, x_3 \ldots, x_{10}$ are 10 consecutive odd numbers. Average of x_1, x_2, x_3, x_4 and x_5 is n. What is the average of x_6, x_7, x_8, x_9 and x_{10} ?

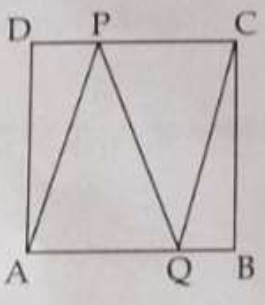
(A) $n+5$

(B) $n+3$

(C) $n+10$

(D) $n+6$

80. ABCD is a square. P is a point on DC and Q is a point on AB. AP = PQ = QC = 30 centimeter. Area of the square is :



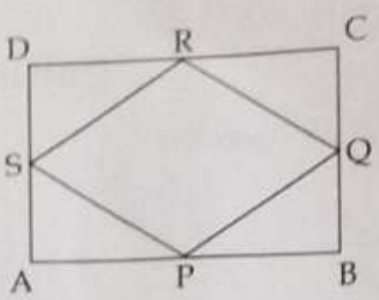
(A) 900 square centimeter

(B) 810 square centimeter

(C) 450 square centimeter

(D) 600 square centimeter

81. ABCD is a rectangle. P, Q, R and S are the midpoints of the sides. Then PQRS is a :



(A) Rhombus

(B) Rectangle

(C) Square

(D) None of these

82. If $x^2 + ax + b = 0$ has only one solution then :

(A) $a^2 = 4b$

(B) $b^2 = 4a$

(C) $a^2 + 4b = 0$

(D) $b^2 + 4a = 0$

83. P(x) is a second degree polynomial.

P(2) = 6, P(1) = P(−1), then P(−2) = _____.

(A) −6

(B) 6

(C) −6 and 6

(D) None of these

84. $a : b = c : d$ then which of the following is **not** correct ?

(A) $\frac{a}{b} = \frac{c}{d}$

(B) $\frac{a}{c} = \frac{b}{d}$

(C) $ac = bd$

(D) $ad = bc$

85. Which of the following is **not** correct ?

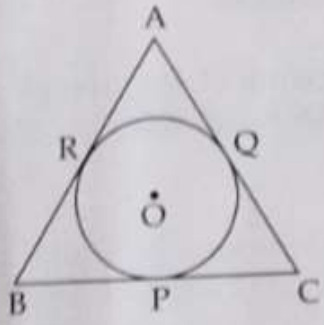
(A) If $x>0$, $|x| = x$

(B) If $x<0$, $|x| = -x$

(C) If $x = 0$, $|x| = 0$

(D) If $x<0$, $|x| = x$

86. In the figure the sides of the triangle ABC are tangents to the circle. PC = AQ = BR = 3 centimeter. In radius of the triangle ABC is _____ centimeter.



(A) $2\sqrt{3}$

(B) $\sqrt{3}$

(C) 3

(D) 1.5

87. $5555 \times 5555 = 30858025$, then $5556 \times 5556 =$ _____.

(A) 30869136

(B) 30863581

(C) 30858026

(D) None of these

88. The sum of the interior angles of a polygon is less than the sum of its exterier angles. The polygon is a :

(A) Square

(B) Pentagon

(C) Triangle

(D) None of these

89. $\sin\theta = \frac{3}{5}$, then $\cos\theta$ is :

(A) $\frac{5}{3}$

(B) $\frac{6}{10}$

(C) $\frac{4}{5}$

(D) $\frac{3}{4}$

90. In a rectangle the length is decreased by 20% and the breadth is increased by 40%. Then the area is :

(A) Increased by 8%

(B) Decreased by 8%

(C) Increased by 12%

(D) Decreased by 12%

91. The score of 7 students in an examination are given below.

34, 44, 32, 41, 38, 46, 45

What is the median of the scores ?

(A) 45

(B) 41

(C) 40.5

(D) 41.5

92. What is the probability of getting 5 Sundays in December in a calendar year ?

(A) $\frac{5}{31}$

(B) $\frac{7}{31}$

(C) $\frac{3}{7}$

(D) $\frac{1}{7}$

93. Which of the following is a point on the line joining $(-1, 4)$ and $(1, 2)$?

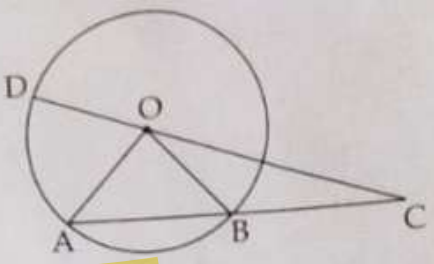
(A) $(1, -1)$

(B) $(3, 1)$

(C) $(2, 1)$

(D) $(3, -1)$

94. O is the centre of the circle. $OB = BC = AB$. $\angle AOD =$ _____.



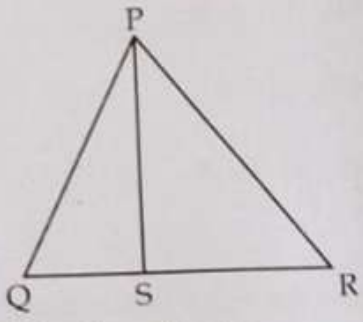
(A) 60°

(B) 100°

(C) 90°

(D) 80°

95. In the figure $\angle QPS = \angle RPS$. $PQ = SR =$ 6 centimeter, $QS = 4$ centimeter. Length of PR is :



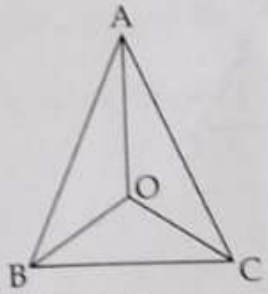
(A) 9 centimeter

(B) 6 centimeter

(C) 10 centimeter

(D) 4.5 centimeter

96. O is the incentre of the triangle ABC. $\angle OAC + \angle OCA + \angle OBC =$ _____.



(A) 180°

(B) 90°

(C) 60°

(D) None of these

97. The sum of two prime numbers is 99. What is their difference ?

(A) 94

(B) 41

(C) 95

(D) None of these

98. If $100^{100} = 10^x$, then $x =$ _____.

(A) 1000

(B) 200

(C) 500

(D) 150

99. $a + b = 15$ and $ab = 54$, then $\frac{1}{a} + \frac{1}{b} =$ _____.

(A) $\frac{18}{5}$

(B) $\frac{5}{18}$

(C) 1

(D) None of these

100. Two triangles have sides of lengths a, b, c and 2a, 2b, 2c. What is the ratio of their areas ?

(A) 1 : 2

(B) 1 : 4

(C) 1 : 1

(D) 1 : 8

101. If a^2 is a perfect square, the next perfect square is :

(A) $a^2 + 2a$

(B) $a^2 + 2a + 1$

(C) $a^2 + 2a - 1$

(D) $a^2 + 4a + 1$

102. The point on the x axis which is at equidistance from the points $(-5, 8)$ and $(6, -3)$ is :

(A) $(6, 0)$

(B) $(-5, 0)$

(C) $(1/2, 0)$

(D) $(-2, 0)$

103. What is the ratio between the radius and the slant height of a cone by rolling up a sector of central angle 120° ?

(A) 2 : 3

(B) 1 : 2

(C) 1 : 3

(D) 3 : 4

104. The price of 3 pencils and 4 pens is 26 rupees and for 6 pencils and 5 pens it is 37 rupees. What is the price of 10 pencils and 10 pens ?

(A) 63 rupees

(B) 47 rupees

(C) 81 rupees

(D) 70 rupees

105. A sum of money doubles in 6 years at compound interest in a bank. In how many years will be the amount increase to 8 times ?

(A) 16

(B) 12

(C) 24

(D) 18

106. $x^2+y^2+5x-6y+4=0$ is the equation of a circle. The points of intersection of the circle and the x-axis is :

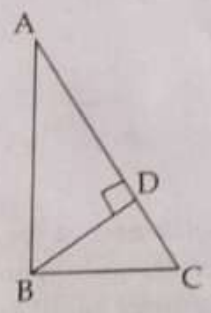
(A) $(-1, 0), (-4, 0)$

(B) $(1, 0), (4, 0)$

(C) $(0, -1), (0, -4)$

(D) $(0, 1), (0, 4)$

107. In triangle ABC, $\angle A=30°$, $\angle C=60°$ and $\angle ADB=90°$. BC : BD : DC is :



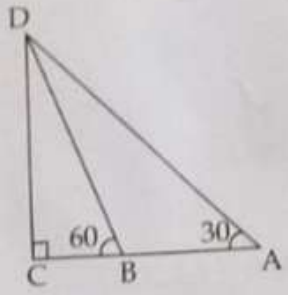
(A) $2 : \sqrt{3} : 1$

(B) $2 : 1 : 1$

(C) $1 : \sqrt{3} : 2$

(D) $\sqrt{2} : \sqrt{2} : 1$

108. In the figure $\angle A=30°$, $\angle CBD=60°$ and $\angle C=90°$ BD = 10 meter. What is the length of AC ?



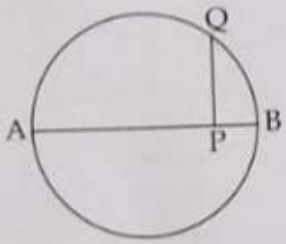
(A) 10 meter

(B) 5 meter

(C) 7.5 meter

(D) 15 meter

109. AB is the diameter of the circle. PA = 9 centimeter, PB = 1 centimeter. Length of PQ is :



(A) 4.5 centimeter

(B) $\sqrt{6}$ centimeter

(C) $\sqrt{3}$ centimeter

(D) 3 centimeter

110. The height of a wooden cube is 6 centimeter. Find the volume of the largest sphere that can be carved out from it ?

(A) 72π

(B) 36π

(C) 18π

(D) 108π

111. Hypotenuse of a right triangle is 18 centimeter and its in radius is 3 centimeter. What is its perimeter ?

(A) 42 centimeter

(B) 54 centimeter

(C) 32 centimeter

(D) 21 centimeter

112. Which of the following is NOT correct ?

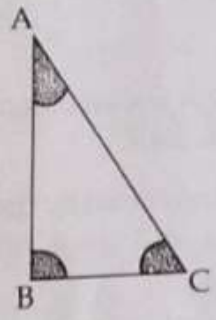
(A) $\frac{1}{\sqrt{2}+1} = \sqrt{2} - 1$

(B) $\frac{1}{1+\sqrt{2}} = 1 - \sqrt{2}$

(C) $\sqrt{2\frac{2}{3}} = 2\sqrt{\frac{2}{3}}$

(D) $\sqrt{3} + \sqrt{12} = 6$

113. Three equal arcs are drawn from the vertices of the triangle ABC with radius 1 centimeter. Area of the shaded portion is _____ square centimeters.



(A) π

(B) 2π

(C) $\frac{\pi}{3}$

(D) $\frac{\pi}{2}$

114. $P(x) = 3x^2 + 2x + 1$ and $q(x) = 2x^2 + 3x - 1$. What number is $p(0) - q(0)$?

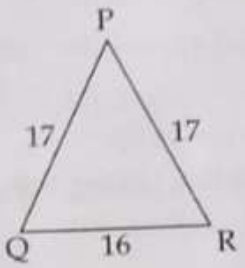
(A) 10

(B) 2

(C) 0

(D) 3

115. The triangle in the figure is one lateral face, of a square pyramid. PQ = PR = 17 centimeter. QR = 16 centimeter, its slant height is :



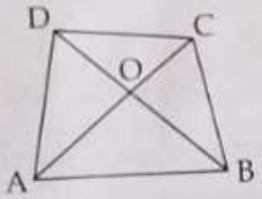
(A) 15 centimeter

(B) 17 centimeter

(C) 16 centimeter

(D) None of these

116. ABCD is a trapezium. Area of triangle OCD is 4 square centimeter and the area of triangle OAB is 9 square centimeter. Then the area of the trapezium ABCD = _____ square centimeter.



(A) 26

(B) 36

(C) 25

(D) 21

117. First positive term in the arithmatic sequence $-74, -68, -62$ ..... is :

(A) 1

(B) 0

(C) 5

(D) 4

118. The expression for the sum of first n terms of an arithmetic sequence is n^2+2n. Its first term is :

(A) 3

(B) 5

(C) 2

(D) 1

119. The equation of the line joining the points (2, 4) and (5, 6) is :

(A) $2x-3y+8=0$

(B) $2x+3y-8=0$

(C) $2x-3y=8$

(D) $2x+3y=8$

120. Which among the following number is in between 3 and 4 in the number line ?

(A) $\sqrt{5}$

(B) $\sqrt{6}$

(C) $2\sqrt{2}$

(D) $2\sqrt{3}$

121. Mathematics education aims to develop :

(A) Only computational skills

(B) Only logical thinking

(C) Critical thinking, problem solving and analytical skills

(D) Only memorization skills

122. Example for an open-ended question is :

(A) a, b, c, d, e, f, g are 7 consecutive counting numbers. If $b+f=102$, find the value of $a+b+c+d+e+f+g$?

(B) If the perimeter of rectangle is 20 cm, then find the dimensions of the rectangle ?

(C) Half of one third of a number is 2. Then what is the double of one fourth of that number ?

(D) How many three digit numbers can be formed using the digits 5, 1 and 2 ?

123. Which of the following is **not** a quality of a good mathematics teacher ?

(A) Good pedagogical content knowledge related to mathematics.

(B) Ability to teach hard spots in simple and effective method.

(C) Ability to understand the academic level of students.

(D) Ability to complete the lessons quickly.

124. Which of the following is not an objective of assessment in mathematics ?

(A) To find out problems faced by the child during learning and give suitable remedial teaching.

(B) To guide instructional decisions and adapt teaching methods.

(C) To determine the level of student achievement and assign grades.

(D) To compare the learner with other children and advice them to study well.

125. BALA concept which is an innovative approach to education is :

(A) Building as a Learning Aid

(B) Black board as a Learning Aid

(C) Books as a Learning Aid

(D) Braille Aided Learning Assessment

126. Cone of experience is primarily used for :

(A) Categorising audio visual aids

(B) Classifying learning objectives

(C) Assessing student performance

(D) Evaluating teaching methods

127. Mathematics laboratory mainly supports :

(A) To assess student performance

(B) To promote rote learning

(C) To provide hands on experience with math concepts

(D) To conduct exams

128. At which stage do children typically develop the ability to think abstractly and reason hypothetically ?

(A) Preoperational stage

(B) Sensorimotor stage

(C) Concrete operational stage

(D) Formal operational stage

129. Which of the following is not a process skill in mathematics ?

(A) Handling mathematical instruments

(B) Generalisation

(C) Explanation

(D) Analyzing data

130. Which of the following is a creative activity related to geometry ?

(A) Designing a 'pookalam' involving different geometrical shapes.

(B) Measuring radius of a given circle.

(C) Drawing a circle of radius 7 centimetres with the help of compass.

(D) Drawing triangles with given measurements.

131. Mathematics club activities are specially meant for :

(A) Helping gifted students in completing project work

(B) To select students for mathematics competitions

(C) Stimulating interest in learning mathematics

(D) To enable children to do well in examination

132. 'The sum of 3 consecutive natural numbers is always a multiple of 3'. Which learning method is suitable to prove this principle ?

(A) Inductive method

(B) Deductive method

(C) Synthetic method

(D) Analytic method

133. Which of the following is used as a software for learning geometry ?

(A) Marble

(B) JFraction Lab

(C) GeoGebra

(D) Celestia

134. Which is the correct order of steps involved in project-method of teaching mathematics ?

(A) Planning, Formation of hypothesis, Data collection, Data analysis, Report writing.

(B) Formation of hypothesis, Planning, Data collection, Data analysis, Report writing.

(C) Data collection, Planning, Formation of hypothesis, Data analysis, Report writing.

(D) Planning, Data collection, Report writing, Data analysis, Formation of hypothesis.

135. Which among the following is **not** necessary in the response column of a teaching manual ?

(A) Reactions of students

(B) Grades obtained in the term of evaluation

(C) Self-evaluation of teacher related to the learning activities

(D) Merits and demerits of learning activities

136. Which of the following is **not** an objective of learning history of mathematics ?

(A) To understand the nature and growth of mathematics

(B) To develop motivation in children for learning mathematics

(C) To find suitable situation for introducing certain topic

(D) To analyse mathematics problems in real life situations

137. A criterion of a good test is validity, which refers to :

(A) The range of scores produced by the test.

(B) The fairness and unbiased nature of the test.

(C) The extent to which the test measures what it is intended to measure.

(D) The consistency of test results over time.

138. To introduce the concept of fractions, a teacher can begin with :

(A) Explaining that the same fraction have different forms

(B) Identifying fractional parts of things around them

(C) Identifying numerators and denominators of different fractions

(D) Writing fractions in the form $\frac{a}{b}$, where b is not equal to 0.

139. What is the age limit for receiving the fields medal ?

(A) 30 years

(B) 40 years

(C) 50 years

(D) No age limit

140. Which of the following is **not** the method that a teacher can adopt in the classroom ?

(A) Help the children to arrive at solution of problems.

(B) Giving solutions of all problems by teacher herself.

(C) Asking thought provoking questions.

(D) Giving opportunity to discuss problems in groups.

141. According to the theory of Bruner, which mode of learning uses images and visuals to represent concepts ?

(A) Enactive

(B) Iconic

(C) Logical

(D) Symbolic

142. Which of the following is an advantage of microteaching ?

(A) It allows teachers to avoid real classroom situations.

(B) It provides an opportunity for teachers to practice their teaching skills.

(C) It reduces the cost of teacher training.

(D) It eliminates the need for teacher training.

143. Unknown to known is related to :

(A) Synthesis

(B) Deduction

(C) Analysis

(D) Induction

144. Which one of the following is **not** related with the blue print of a question paper preparation ?

(A) Objectives

(B) Content areas

(C) Type of questions

(D) Learning aids

145. Which of the following is the best learning strategy that can be used to give direct experience to the children associated with Mathematics ?

(A) Field Trip

(B) Seminar

(C) Assignment

(D) Discussion

146. Which of the following is not included in the concept formation stages (ELPS) in mathematics learning ?

(A) Experience

(B) Language

(C) Problem solving

(D) Symbols

147. Which is **not** a problem solving technique in mathematics learning ?

(A) look backward

(B) write a pattern

(C) take a simpler case

(D) generalising

148. The mathematician related to the number 6174 is :

(A) Kaprekar

(B) Brahmagupta

(C) Aryabhatta

(D) Bhaskaracharya

149. Which of the following is the most appropriate problem solving strategy in a Mathematics class ?

(A) Giving solution of all problems by teacher herself.

(B) Teacher gives the problem as an assignment.

(C) Teacher instructs the students to find the answer.

(D) Teacher facilitates the students to solve the problem by themselves.

150. Which of the following is true about Gagne's theory of learning ?

(A) It emphasizes the importance of memorization and rote learning.

(B) It focuses exclusively on the role of the teacher in the learning process.

(C) It does not take into account the influence of social and cultural factors on learning.

(D) It emphasizes the importance of individual differences in the learning process.

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