

**Math Marathon Questions 2021-22 (2078)****Class-9**

1. What is the single value of  $25^2 - 15^2$ ? (400)
2. How many times can  $a-b$  be subtracted from  $a^2 - b^2$ ?  $(a+b)$  times
3. How many halves are there in  $50\frac{1}{2}$ ? (101)
4. I am the least 3 digits square number that can be read from left or right gives the same. Who am I? (121)
5. How many three quarters are there in 9? (12)
6. What comes next? 61, 52, 63, 94, 46,----- (18)
7. I am two digits number. The mathematicians like me because I am perfect square and cube number. Who am I? (64)
8. If  $a+b=3$ ,  $b+c=4$  and  $c+a=5$ , then what is the sum of  $a$ ,  $b$  and  $c$ ? (6)
9. How much is equal to  $500 \div 0.5$ ? (1000)
10. What are the 3 consecutive prime numbers which have a difference of 2? (3,5,7)
11. What is called a set which has no elements? (Empty/Void/Null set)
12. What is called a set having one element? (Singleton set)
13. What is the area of right angle triangle whose sides are 3cm, 4cm and 5cm? (6 sq.cm)
14. What is called the point of intersection of the perpendicular bisectors of the sides of a triangle? (circumcentre)
15. What is called the point of intersection of the perpendiculars of the sides of a triangle drawn from the vertices to the opposite sides? (Ortho-centre)
16. What is called the point of intersection of the angular bisectors of a triangle? (in-centre)
17. What is called the point of intersection of the medians of a triangle? (Centroid)
18. How much is 20% of Rs 2000 = ? (Rs 400)
19. What is the exterior angle of a regular pentagon? ( $72^\circ$ )
20. A student created a new method of multiplication in which  $3 \times 4 = 19$ ,  $5 \times 6 = 41$  then how much is  $6 \times 7 =$ ? (55)
21. If  $2@3=35$ ,  $3@4=91$  then how much is  $3@3=$ ? (54)
22. How many times  $4^2$  appear in the equation  $\sqrt{4^2 + 4^2 + 4^2 + \dots + 4^2} = 4^2$  (16 times)
23. How many edges does a cuboid have altogether? (12)
24. The boiling point and freezing point of a liquid are  $73^\circ\text{C}$  and  $-27^\circ\text{C}$  respectively. How much is the difference between these two points? (100°C)
25. The product of the ages of 3 brothers is 20 years. If two of them are twins, how old is the other? Assuming that their ages are whole numbers greater than one. (5 yrs.)
26. How much is  $2^{12} - 2^{11}$ ? ( $2^{11}$ )
27. If  $(x-8)^2 = 100$ , what is the minimum value of  $x$ ? (-2)
28. What is the median of 2,3,5,7? (4)
29. What is the H.C.F of  $a^2 - b^2$  and  $a^3 - b^3$ ? ( $a - b$ )
30. If  $a-b=1$ ,  $b-c=2$  and  $c-a=d$ , what is the value of  $d$ ? (-3)
31. Who is known as the father of Geometry? (Euclid)
32. What will be the product of a number and its reciprocal? (1)
33. What is called a polygon of 7 sides? (Heptagon)
34. What is called a polygon of 9 sides? (Nonagon)
35. What is the total surface area of a cube whose side is 3cm? (54 sq.cm)
36. If  $x + \frac{1}{x} = 2$ , How much is  $x^2 + \frac{1}{x^2}$ ? (2)
37. If  $ab=4$ ,  $bc=5$  and  $ca=20$ , then how much is  $abc$ ? (20)
38. If  $x=7$  and  $y=-3$ , then how much is  $x - y$ ? (10)
39. What are the next two numbers in the sequence 1,3,7,15-----,-----? (31, 63)
40. What is the H.C.F of 2, 3, 4? (1)
41. What is the L.C.M of 2, 3, 4? (12)
42. What is the area of circle whose radius is  $\sqrt{7}$  m? (22 sq.m)
43. If  $4:a=b:3$ , then how much is  $a \times b$ ? (12)
44. What is the exterior angle of a triangle whose two interior opposite angles are  $42^\circ$  and  $58^\circ$ ? ( $100^\circ$ )
45. What should be subtracted from  $a$  to get  $b$ ? ( $a - b$ )
46. What is the side of a square whose perimeter is 100m? (25 m)
47. How many Kg make one quintal? (100 Kg)
48. What is the value of  $125^{\frac{2}{3}}$ ? (25)

49. What is the supplement of  $70^\circ$  ? ( $110^\circ$ )
50. What is the complement of  $46^\circ$  ? ( $44^\circ$ )
51. If A is 77% of B, then how much is A:B ? ( $77:100$ )
52. If A:B = 3:4, then A is how much % of B ? ( $75\%$ )
53. What is the single value of  $100 \div 100 \times 100 + 100 - 100$  ? ( $100$ )
54. What is the area of a rectangle whose sides are 9cm and 8cm? ( $72 \text{ sq.cm}$ )
55. What is the length of a side of a square whose area is 361 sq.m? ( $19\text{m}$ )
56. How much is 3 tenth + 7 tenth ? (1)
57. What is the length of the hypotenuse of a right angled triangle whose two sides are 6cm and 8cm ? ( $10\text{cm}$ )
58. If  $a=2$  and  $b=3$ , then how much is  $a^b + b^a$  ? (17)
59. What are three numbers whose sum and product are same ? (1,2,3)
60. If  $3x^2/2 = 2/3$ , then what is the possible values of x ? ( $\pm 2/3$ )
61. How much is  $37 \times 3$ ? (111)
62. If  $1/x = x/9$ , what are the possible values of x ? ( $\pm 3$ )
63. If  $1 - x - x^2 = 0$ , then how much is  $1 + x + x^2$ ? (2)
64.  $20 \times 50$  is more than  $19 \times 50$ . How much is more ? (50)
65. If  $7^x \times 7^y = 7^{100}$ , then how is the average of x and y ? (50)
66. In  $8^a = 64$ , what is the value of a ? (2)
67. What are the next two numbers in the sequence 1,1,4,8,9,27,16 ----?, ---? ( $64, 25$ )
68. What is the area of right triangle whose sides are 6cm, 8cm and 10cm ? ( $24 \text{ sq.cm}$ )
69. What are the prime numbers between 20 and 35 ? (23,29,31)
70. What is the total surface area of a cube whose side is 2 cm ? ( $24 \text{ sq.cm}$ )
71. Ten times of number is equal to 5 times 20, then what is the number? (10)
72. A coin is tossed twice, what is the probability of getting both heads? ( $1/4$ )
73. A coin is tossed twice, what is the probability of getting both tails? ( $1/4$ )
74. A bag contains 4 red and 6 green marbles. A marble is drawn at random, what is the probability of drawing a red marble? ( $2/5$ )
75. A bag contains 4 red and 6 green marbles. A marble is drawn at random, what is the probability of drawing a green marble? ( $3/5$ )
76. The mean of a and b is 5, and the mean of c and d is 15, what will be the mean of a, b, c, d ? (10)
77. How many circular coins of radius 2 cm can be adjusted inside a square of side 8 cm? (4)
78. How much is a quarter of 5 dozens? (15)
79. Which is greater? 40% of 50 or 50% of 40 ? (Equal)
80. What are the prime factors of 111 are? (3 and 37)
81. Are all similar triangles congruent? (No)
82. Are all congruent triangles similar? (Yes)
83. The perimeter of a square is 16 cm. Is its area too? (Yes)
84. How many diameters of a circle can be drawn? (Infinite)
85. What is the square-root of 169 ? [13]
86. What index of x will equal to  $\frac{1}{x}$  ? [-1]
87. What is the value of  $9^{\frac{1}{2}}$  ? [3]
88. What is the cube-root of 216? [6]
89. What is the value of  $\sqrt{25} + \sqrt{9}$  in rational number? [8]
90. What is the value of  $\sqrt{16} \times \sqrt{4}$  ? [8]
91. What is the compound ratio of 2:3 and 3:4? [1:2]
92. What is the ratio of 20 boys to 30 girls? [2:3]
93. What is the ratio of 1kg. to 500 grams? [2:1]
94. What is the ratio of 2 hours. to 40 minutes? [3:1]
95. What is the value of  $6^2 + 8^2$  ? [100]
96. What is the value of  $11^2 + 10^2$  ? [221]
97. What is the value of  $2^2 \times 3^2 \times (4)^0$  ? [36]
98. What is the perimeter of a square whose side is 15 meters ? [60meters]
99. What would be the length of the side of a square whose area is 225sq.meters? [15 meters]

100. What is the the side of a square whose perimeter is 72 meters?. [18 meters]
101. What is the value of  $\sqrt{12} \times \sqrt{3}$  ? [6 ]
102. What should be added to x to get z ? [z – x ]
103. What is the degree of the polynomial  $5x^2y$  ?. [3]
104. A polygon has at least how many sides? {3 sides]
105. What is the average of 4,8 and 18? [10]
106. What is the speed of an object which travels 100 meters in 5 seconds? [20m/sec]
107. 5 dozen sweets are placed equally in 6 plates. What is the number of sweets in each plate? [10]
108. How many edges have a hexagonal pencil of not sharpened? [8]
109. What is the biggest number that can be written with four 1s. ?[11<sup>11</sup>]
110. What is the biggest number that can be written with two 9s?. [9<sup>9</sup>]
111. If A is 67% of B then how much is A:B equal to? [67:100]
112. If A:B = 3:4 then A is how much percentage of B? [75%]
113. What is the prime number next to 100 ? [101]
114. What is the mean of 3,9 and 12? [8]
115. A dozen consists of 12 objects. How many objects are there in 15 dozens? [180]
116. What percent is represented by 0.07? [7%]
117. What is the smallest number which can be divided by 4 and 6? [12]
118. 20% of Rs.300 is how much? [Rs.60]
119. What is the number whose 10% is 2 ? [20]
120. 5% of what number is equal to 5? [100]
121. Selling price = Rs.185, discount = Rs.15, What is the marked price?. [Rs.200]
122. M.p = Rs100, discount = 20% , What is the selling price?. [ Rs.80]
123. What is mean proportional between 2 and 8?. [4]
124. What is the product of (x + y) and (x<sup>2</sup> - xy + y<sup>2</sup>). [x<sup>3</sup> + y<sup>3</sup> ]
125. (2<sup>3</sup>)<sup>2</sup> is how much? [64]
126. What is the complement of 62° ?[28°]
127. What is the supplement of 82° ? [98°]
128. If one angle of the linear pair is 68°, What is the other angle?. [ 112°]
129. If ( 2x)<sup>0</sup> and (3x)<sup>0</sup> form a complementary angle, What is the value of x?. [ x = 18°]
130. If ( 7x)<sup>0</sup> and (8x)<sup>0</sup> form a supplementary angle, What is value of x?. [ x = 12°]
131. If ( 5x)<sup>0</sup> and (13x)<sup>0</sup> form a linear pair, What is the value of x?. [ x = 10°]
132. What is the value of (2xyz)<sup>0</sup> ? [1]
133. What is the value of  $\frac{3}{4} + \frac{5}{4}$ ? [2]
134. What is the value of  $\frac{5}{7} - \frac{8}{7}$  ? [-  $\frac{3}{7}$  ]
135. If x<sup>2</sup> -16= 0, what is the value of x? [±4]
136. How much is the sum of three interior angles of a triangle? [ 180° ]
137. What is the relation between the base angles of an isosceles triangle ?equal]
138. What is called a triangle having three sides equal ?(equilateral triangle]
139. What is called a triangle having two sides are equal?[isosceles triangle]
140. What is called a triangle having neither sides are equal?.[scalene triangle]
141. What is called a closed figure formed by four straight lines ?[quadrilateral]
142. What is called a five sided polygon ?[pentagon]
143. How much is (m + n)<sup>2</sup> when it is expanded? [ m<sup>2</sup> + 2mn +n<sup>2</sup> ]
144. How much is (y - z)<sup>2</sup> when it is expanded ? [ y<sup>2</sup>- 2yz +z<sup>2</sup>]
145. How much is (y +z) . (y – z ) when it is expanded? [y<sup>2</sup> - z<sup>2</sup> ]
146. How much is (2x – 3y) . (2x + 3y) when it is expanded? [4x<sup>2</sup> - 9y<sup>2</sup>]
147. What is called a six sided polygon ?[hexagon ]
148. What is the relation among the corresponding sides of similar triangles?[proportional ]
149. How many pair of angles are formed when two non-intersecting lines are cut by a transversal? [4 pairs.]
150. The two sides of a right angled triangle are 6cm. and 8cm. How long is its hypotenuse? [10cm.]
151. What two whole numbers neither containing any zeros, when multiplied together equals exactly 1000? [8 and 125 ]
152. A discount equals to 10% of what? [M.P.]
153. What is the value of 30% of Rs.200?. [Rs.60]

154. What is the value of 1% of 100kg? [1kg.]
155. A train covers 200km. in 4 hours. What is its speed in km per hour? [50km. per hour]
156. What is the value  $\frac{3}{4}$  of 60kg.? [45kg.]
157. What is the value of  $\frac{2}{5}$  of 100kg.? [40kg.]
158. What is the value  $\frac{1}{4}$  of 60km.? [15km.]
159. If  $x = 3$ , What is the value of  $1 + \frac{9}{x}$ .? [4]
160. The sides of a rectangle are 8cm. and 7cm. What is its perimeter? [30cm.]
161. Which number is a factor of every number? [1]
162. What is the remainder when 123 is divided by 100? [23]
163. A man has 100 marbles. If he sells  $\frac{1}{5}$  of the marbles, how many marbles are left now ?. [80]
164. If  $\frac{1}{3}$  is cut off from a piece of cloth. What fraction of the cloth is left now? [ $\frac{2}{3}$ ].
165. How much is 50% of 25 x 4 ? [50]
166. How many months are there in  $5\frac{1}{3}$  years? [64months]
167. How much is the H.C.F. of 32 and 48? [16]
168. How much is  $\frac{1}{10}$  of an hour in seconds? [360seconds]
169. A cyclist covers 15km. in an hour. How many hours he will take to cover 90km.? [6 hours]
170. If we add 3 to the double of a number we get 33. What is the number? [15]
171. 50% of a sum is Rs.85. What is the sum? [Rs.170]
172. How many  $\frac{1}{4}$ kg. tins can be filled by 25kg.of jam? [100tins]
173. I could attend only  $\frac{3}{10}$  of the paper. What fraction of the paper couldnot be attempt by me? ( $\frac{7}{10}$ )
174. The price of an article is Rs.25. How many articles can we buy for Rs.300? [12]
175. If  $\frac{3}{7}$  of a money is Rs.15, what is the whole amount? [Rs.35]
176. If the interest of Rs.100 in one year is Rs.10, what is the rate percent per annum? [ 10%]
177. What is the interest on Rs.500 at 5% per annum in 5 years? [Rs.125]
178. In an examination 3 boys got 50, 60 and 70 marks. What are their average marks? [60]
179. The boiling point and freezing point of a liquid is  $72^{\circ}\text{C}$  and  $-28^{\circ}\text{C}$  respectively. Find the difference between the boiling point and the freezing point. [ $100^{\circ}\text{C}$ ]
180. What percent does  $\frac{3}{4}$  represent? [75%]
181. 80% of 20 is how much? [16]
182. 2%of Rs.7200 is how much? [Rs.144]
183. What are the two prime factors of 69? [3 and 23]
184. What is the H.C.F. of  $x^2 - y^2$  and  $x - y$  ? [ $x - y$  ]
185. What is the L.C.M. of  $2x + 3y$  and  $(2x + 3y)^2$  ? [  $(2x + 3y)^2$  ]
186. What should be added to Rs.65 to make it Rs.90? [Rs.25]
187. If  $\frac{5}{8}$  of my money is rs.20, what is the whole? [Rs.32]
188. 30 rounds of yarn make a knot. How many rounds is  $\frac{2}{3}$  of a knot? [20 rounds]
189. What will be the difference if -3 is subtracted from 3? [6]
190. What is the complement of  $60^{\circ}$  ? [ $30^{\circ}$ ]
191. What is the supplement of  $150^{\circ}$ ? [ $30^{\circ}$ ]
192. How many right angles are there in  $360^{\circ}$ ? [4 right angles]
193. Two angles of a triangle are  $70^{\circ}$  and  $80^{\circ}$ . What is the measurement of third angle? [ $30^{\circ}$ ]
194. What will be the area of a circle whose radius is 7meters? [154 sq.meter]
195. 2% of 200 – 1% of 400 is equal to how much? [zero]
196.  $\frac{2}{5}$  of a number is equal to  $\frac{2}{5}$ , what is the number? [1]
197. How many halves are there in 12 and a half ? [25]
198. What is the sum of three fourth and one fourth? [1]
199. What is the L.C.M. of 3, 5 and 15 ? [15]
200. What is the H.C.F. of  $(a + b)^2$  and  $(a + b)$  ? [  $a + b$ ]