Math Marathon Questions 2022-23 (2079)
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÷ 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 is20% of Rs 2000 = ? (Rs 400)
19. What is the exterior angle of a regular pentagon?   (72^0)
20. A student created a new method of multiplication in which 3×4=19, 5×6 =41 then how much is 6×7=? (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 $\sqrt{4^2 + 4^2 + 4^2 + --- + 4^2} = 4^2$ (16 times)
23. How many edges does a cuboid have altogether? (12)
24. The boiling point and freezing point of a liquid are 73^0c and -27^0 c respectively. How much is the difference between these two points ?. (100^0c)
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 andc-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 of2, 3, 4 ? (1)
41. What is thethe L.C.M of2, 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×b ? (12)
44. What is the exterior angle of a triangle whose two interior opposite angles are 42^0 and 58^0? (100^0)
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 70^0 ? $(110^0$)
50.   What is the complement of 46^0 ? (44^0)
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 rhe 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 sq.cm)
55.   What is the length of a side of a square whose area is 361 sq.m?   (19m)
56.   How much is 3 tenth + 7 tenth ?   (1)
57.   What is the length of the length of hypotenuse of a right angled triangle whose two sides are 6cm and 8cm ?
      (10cm)
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 37x3?   (111)
62.   If 1/x=x/9, what are the possible values of x ? (± 3)
63.   If $1-x-x^2=0$, then how much is $1+x+x^2$?   (2)
64.   20x50 is more than 19 x 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 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 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?   (¼)
73.   A coin is tossed twice, what is the probability of getting both tails?   (¼)
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 it's 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 $\sqrt{16}$ x $\sqrt{4}$?   [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 x 3^2 x $(4)^0$? [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 $\sqrt{12}$ x $\sqrt{3}$? [6]

102. What should be added to x to get z ? [z – x]

103. What is the degree of the polynomial $5x^2 y$?. [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^{11}]

110. What is the biggest number that can be written with two 9s?. [9^9]

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^2 - xy + y^2). [$x^3 + y^3$]

125. $(2^3)^2$ is how much? [64]

126. What is the complement of 62^0 ?[28^0]

127. What is the supplement of 82^0 ? [98^0]

128. If one angle of the linear pair is 68^0, What is the other angle?. [112^0]

129. If ($2x)^0$ and $(3x)^0$ form a complementary angle, What is the value of x?. [x = 18^0]

130. If ($7x)^0$ and $(8x)^0$ form a supplementary angle, What is value of x?. [x = 12^0]

131. If ($5x)^0$ and $(13x)^0$ form a linear pair, What is the value of x?. [x = 10^0]

132. What is the value of $(2xyz)^0$?   [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^2 -16= 0, what is the value of x? [$\pm$4]

136. How much is the sum of three interior angles of a triangle?   [180^0]

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)^2 when it is expanded?   [m^2+ 2mn +n^2]

144. How much is (y - z)^2 when it is expanded ?   [y^2- 2yz +z^2]

145. How much is (y +z) . (y – z) when it is expanded? [y^2 - z^2]

146. How much is (2x – 3y) . (2x + 3y) when it is expanded? [$4x^2$ - $9y^2$]

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 isthe 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? $\left[\frac{2}{3}\right]$.

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? $\left(\frac{7}{10}\right)$

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 72^0c and -28^0c respectively. Find the difference between the boiling point and the freezing point. [100^0c]

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 60^0 ? [30^0]

191. What is the supplement of 150^0? [30^0]

192. How many right angles are there in 360^0? [4 right angles]

193. Two angles of a triangle are 70^0 and 80^0. What is the measurement of third angle? [30^0]

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]