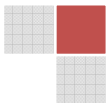
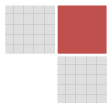


Quantitative Aptitude

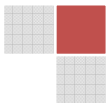
101. Last year my age was a perfect square number. Next year it will be a cubic number. What is my present age ?
 (A) 25 years (B) 27 years
 (C) 26 years (D) 24 years
102. What is the value of $(2.1)^2 \times \sqrt{0.0441}$?
 (A) 0.9261 (B) 92.61
 (C) 92.51 (D) 0.9251
103. The greatest number that can divide 140, 176, 264 leaving remainders of 4, 6 and 9 respectively is
 (A) 85 (B) 34
 (C) 17 (D) 2
104. There are 4 terms in an A.P. such that the sum of two means is 110 and product of their extremes is 2125. The 3rd term is
 (A) 65 (B) 75
 (C) 55 (D) 45
105. The value of $\sqrt[3]{1372} \times \sqrt[3]{1458}$ is
 (A) 116 (B) 126
 (C) 106 (D) 136
106. If 10 men or 18 boys can do a work in 15 days, then the number of days required by 15 men and 33 boys to do twice the work is
 (A) $4\frac{1}{2}$ (B) 8
 (C) 9 (D) 36
107. In a fort, there was sufficient food for 200 soldiers for 31 days. After 27 days, 120 soldiers left the fort. For how many extra days will the rest of the food last for the remaining soldiers ?
 (A) 10 days (B) 6 days
 (C) 4 days (D) 12 days
108. Equal amounts of water were poured into two empty jars of different capacities, which made one jar $\frac{1}{4}$ full and the other jar $\frac{1}{3}$ full. If the water in the jar with lesser capacity is then poured into the jar with greater capacity, then the part of the larger jar filled with water is
 (A) $\frac{1}{2}$ (B) $\frac{7}{12}$
 (C) $\frac{1}{4}$ (D) $\frac{1}{3}$
109. A bookseller makes 8% profit after selling the book at 10% discount. The ratio of the cost price to the marked price is
 (A) 4 : 5 (B) 5 : 4
 (C) 5 : 6 (D) 6 : 5
110. A certain sum of money is distributed to A and B in the ratio 2 : 5. If A received ₹ 100, then the money received by B is
 (A) ₹ 200 (B) ₹ 150
 (C) ₹ 250 (D) ₹ 300



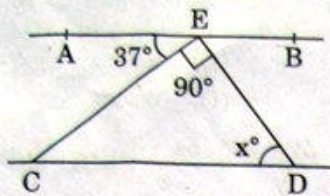
111. A man leaves ₹ 12,600 to be divided among 7 sons, 3 daughters and 5 nephews. If each daughter receives three times as much as each nephew and each son seven times as much as each nephew, then each daughter's share is
(A) ₹ 700 (B) ₹ 650
(C) ₹ 600 (D) ₹ 750
112. The average of three numbers 70, *7 and 5* is 57. If * represents the same digit, then it must be
(A) 3 (B) 6
(C) 4 (D) 7
113. Three years ago, the average age of a family of 8 members was 30 years. If one child is also included in the family, the present average age of the family remained the same. Then the present age of the child is
(A) 3 years (B) 4 years
(C) 6 years (D) 1 year
114. By selling an article for ₹ 21,000, a man gains 5%. To get a profit of 15%, he has to sell it for
(A) ₹ 19,800 (B) ₹ 20,700
(C) ₹ 23,000 (D) ₹ 25,000
115. Rahul bought two cycles for a total sum of ₹ 1,500. He sold one cycle at 20% loss and the other cycle at 20% gain. If the selling price of both the cycles is the same, find the cost price of the two cycles.
(A) ₹ 500, ₹ 1,000 (B) ₹ 600, ₹ 900
(C) ₹ 750 each (D) ₹ 550, ₹ 950
116. The salary of an employee increases every year in the month of July by 10%. If his salary in May 2000 was ₹ 15,000, his salary in October 2001 was
(A) ₹ 16,500 (B) ₹ 18,000
(C) ₹ 18,150 (D) ₹ 19,965
117. 72% of the students of a certain class took Biology and 44% took Mathematics. If each student took Biology or Mathematics and 40 took both, the total number of students in the class was
(A) 200 (B) 230
(C) 250 (D) 320
118. A man walks a certain distance and rides back taking a total time of 37 minutes. He could walk both ways in 55 minutes. How long would he take to ride both ways?
(A) 9.5 minutes (B) 18 minutes
(C) 19 minutes (D) 20 minutes
119. Mahesh starts work as a sales representative on an annual salary of ₹ 1,60,000. If he receives a 15% pay-rise each year, the number of years he has worked for the company, when his annual salary became ₹ 2,79,841 is
(A) 2 (B) 3
(C) 4 (D) 5
120. The base of a triangle is 2 cm more than twice its altitude. If the area is 12 sq. cm, its altitude will be
(A) 6 cm (B) 5 cm
(C) 4 cm (D) 3 cm



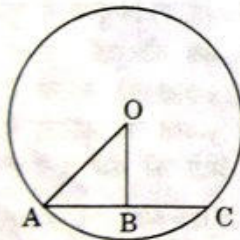
121. ABCD is a quadrilateral in which diagonal $BD = 64$ cm, $AL \perp BD$ and $CM \perp BD$, such that $AL = 13.2$ cm and $CM = 16.8$ cm. The area of the quadrilateral ABCD in square centimetres is
 (A) 537.6 (B) 960.0
 (C) 422.4 (D) 690.0
122. The area of a semi-circular field is 308 sq. m; then taking $\pi = \frac{22}{7}$, the length of the railing to surround it has to be
 (A) 44 m (B) 72 m
 (C) 88 m (D) 80 m
123. Volume of a right circular cone is numerically equal to its slant surface area. Then value of $\left(\frac{1}{h^2} + \frac{1}{r^2}\right)$, where h and r are height and radius of the cone respectively, is
 (A) 9 units (B) $\frac{1}{9}$ unit
 (C) 4 units (D) $\frac{1}{4}$ unit
124. If the numerical value of the volume of a right circular cylinder and its curved surface area are equal, then its radius is
 (A) 2 units (B) 4 units
 (C) 3 units (D) 6 units
125. ABCDEF is a regular hexagon of side 2 feet. The area, in square feet, of the rectangle BCEF is
 (A) 4 (B) $4\sqrt{3}$
 (C) 8 (D) $4 + 4\sqrt{3}$
126. If the volume and the surface area of a sphere are numerically equal, then the numerical value of the radius of the sphere is
 (A) 1 (B) 2
 (C) 3 (D) 4
127. If $\frac{5x-3}{x} + \frac{5y-3}{y} + \frac{5z-3}{z} = 0$, then the value of $\frac{1}{x} + \frac{1}{y} + \frac{1}{z}$ is
 (A) 15 (B) 3
 (C) 5 (D) 10
128. Minimum value of $x^2 + \frac{1}{x^2+1} - 3$ is
 (A) -3 (B) -2
 (C) 0 (D) -1
129. If $a + b = 5$, $a^2 + b^2 = 13$, the value of $a - b$ (where $a > b$) is
 (A) 2 (B) -1
 (C) 1 (D) -2
130. If $(3x - y) : (x + 5y) = 5 : 7$, then the value of $(x + y) : (x - y)$ is
 (A) 3 : 1 (B) 1 : 3
 (C) 2 : 3 (D) 3 : 2
131. The line passing through the points $(-2, 8)$ and $(5, 7)$
 (A) does not cut any axes
 (B) cuts x-axis only
 (C) cuts y-axis only
 (D) cuts both the axes
132. In ΔABC , $\angle B = 60^\circ$, $\angle C = 40^\circ$. If AD bisects $\angle BAC$ and $AE \perp BC$, then $\angle EAD$ is
 (A) 40° (B) 80°
 (C) 10° (D) 20°



133. In the figure below, if $AB \parallel CD$ and $CE \perp ED$, then the value of x is



- (A) 37 (B) 45
(C) 53 (D) 63
134. PA and PB are two tangents drawn from an external point P to a circle with centre O where the points A and B are the points of contact. The quadrilateral OAPB must be
- (A) a square (B) concyclic
(C) a rectangle (D) a rhombus
135. G is the centroid of ΔABC . If $AG = BC$, then $\angle BGC$ is
- (A) 60° (B) 120°
(C) 90° (D) 30°
136. In the following figure, if $OA = 10$ and $AC = 16$, then OB must be



- (A) 3 (B) 4
(C) 5 (D) 6

137. If in ΔABC , $\angle A = 90^\circ$, $BC = a$, $AC = b$ and $AB = c$, then the value of $\tan B + \tan C$ is

- (A) $\frac{b^2}{ac}$ (B) $\frac{a^2}{bc}$
(C) $\frac{c^2}{ab}$ (D) $\frac{a^2 + c^2}{b}$

138. A ladder is resting against a wall at a height of 10 m. If the ladder is inclined with the ground at an angle of 30° , then the distance of the foot of the ladder from the wall is

- (A) $10\sqrt{3}$ m (B) $20\sqrt{3}$ m
(C) $10/\sqrt{3}$ m (D) $20/\sqrt{3}$ m

139. $\tan 7^\circ \tan 23^\circ \tan 60^\circ \tan 67^\circ \tan 83^\circ$ is equal to

- (A) $\frac{1}{\sqrt{3}}$ (B) 1
(C) 0 (D) $\sqrt{3}$

140. The value of

$(\sec \theta - \cos \theta)(\operatorname{cosec} \theta - \sin \theta)(\tan \theta + \cot \theta)$ is

- (A) 2 (B) 0
(C) 1 (D) $\frac{3}{2}$

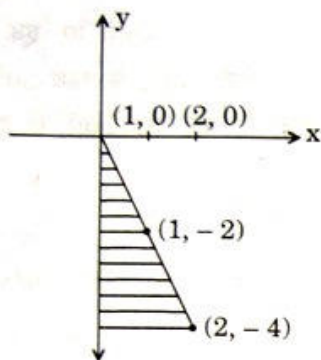
141. If $\tan(\theta_1 + \theta_2) = \sqrt{3}$, and $\sec(\theta_1 - \theta_2) = \frac{2}{\sqrt{3}}$,

then the value of $\sin 2\theta_1 + \tan 3\theta_2$ is equal to

(assume that $0 < \theta_1 - \theta_2 < \theta_1 + \theta_2 < 90^\circ$)

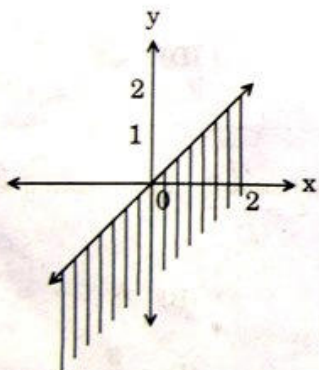
- (A) 1 (B) 2
(C) 0 (D) 3

142. The area of the shaded region in the following graph is



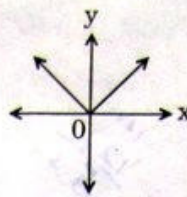
- (A) 2 units (B) 4 units
(C) 6 units (D) 8 units

143. The shaded region represents

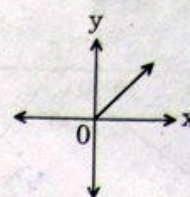


- (A) $y \leq x$ (B) $y \geq -x$
(C) $y \geq x$ (D) $y \leq -x$

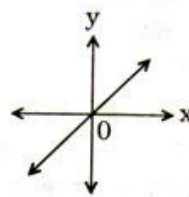
144. The graph of $y = x + |x|$ is given by



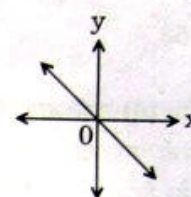
(1)



(2)



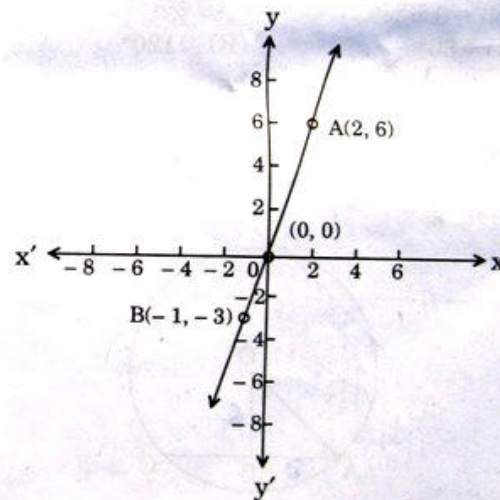
(3)



(4)

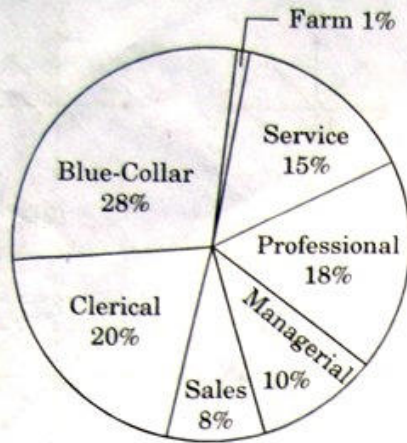
- (A) 1 (B) 2
(C) 3 (D) 4

145. The equation of this graph is

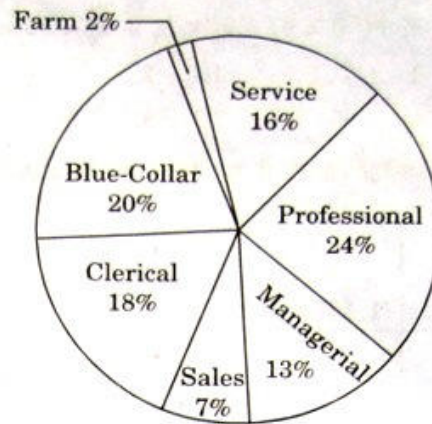


- (A) $y = -x$ (B) $y = -3x$
(C) $y = x$ (D) $y = 3x$

Directions : The pie-chart given below shows the distribution of workforce by occupational category for country X in 1981 and 1995. Study the chart and answer the questions no. 146 to 150.



1981

Total workforce
150 million

1995

Total workforce
175 million

146. In 1981, the number of Service workers in the workforce, in millions, was
 (A) 15.0 (B) 20.5
 (C) 22.5 (D) 28.0
147. In 1981, the number of categories which comprised of more than 25 million workers each, is
 (A) two (B) three
 (C) four (D) five
148. The ratio of the number of workers in the Professional category in 1981 to the number of such workers in 1995 is
 (A) 4 : 9 (B) 5 : 14
 (C) 9 : 14 (D) 14 : 9
149. The increase in the number of Clerical workers in the workforce of country X from 1981 to 1995 (in millions) is
 (A) 0.75 (B) 1.5
 (C) 0.5 (D) 1.25
150. The percentage decrease in the number of Blue-Collar workers in the workforce of country X from 1981 to 1995 is
 (A) $42\frac{1}{2}$ (B) 35
 (C) 20 (D) $16\frac{2}{3}$

