

Q.1 Two concentric circles are of radii 15 cm and 6 cm. What is the length (in cm) of the chord of the larger circle that is tangent to the smaller circle?

- Ans
- 1. $9\sqrt{21}$
 - 2. $3\sqrt{21}$
 - 3. $4\sqrt{21}$
 - 4. $6\sqrt{21}$

Question ID : 6549786989
Status : Answered
Chosen Option : 4

Q.2

If $5k = \tan\theta$ and $\frac{5}{k} = \sec\theta$, then what is the value of $10\left(k^2 - \frac{1}{k^2}\right)$?

- Ans
- 1. $\frac{2}{5}$
 - 2. $-\frac{2}{5}$
 - 3. -2
 - 4. 2

Question ID : 6549788111
Status : Answered
Chosen Option : 1

Q.3 AB is a chord of a circle with centre O and P is any point on the circle. If $\angle APB = 112^\circ$, then what is the measure of $\angle OAB$?

- Ans
- 1. 44°
 - 2. 32°
 - 3. 22°
 - 4. 30°

Question ID : 6549788101
Status : Answered
Chosen Option : 3

Q.4 Two wrist watches were sold for ₹1,980 each. One wrist watch was sold at a profit of 10% and the other one at a loss of 10%. The entire transaction resulted in:

- Ans
- 1. no gain no loss
 - 2. a gain of ₹99
 - 3. a loss of ₹99
 - 4. a loss of ₹40

Question ID : 6549788097
Status : Answered
Chosen Option : 4

Q.5 At a factory outlet of a footwear company, every item is available at a discount of 10%. Charu selected footwear marked for ₹900. While paying the bill, it was found that the footwear was slightly damaged for which she got another discount of 10%. How much did she pay for the footwear?

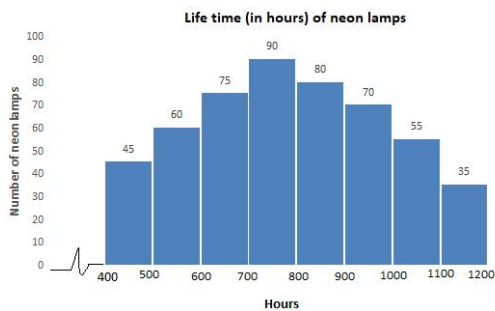
- Ans**
- 1. ₹720
 - 2. ₹729
 - 3. ₹810
 - 4. ₹801

Question ID : 6549788095

Status : Answered

Chosen Option : 2

Q.6 Study the given bar graph which shows the life time (in hours) of neon lamps and the number of neon lamps and answer the question that follows.



The number of neon lamps having life 800 hours or more but less than 1000 hours is what percent (correct to nearest integer) of the total number of neon lamps having life 700 hours or less?

- Ans**
- 1. 67%
 - 2. 83%
 - 3. 87%
 - 4. 79%

Question ID : 6549787004

Status : Answered

Chosen Option : 2

Q.7 If $a^3 + b^3 + c^3 - 3abc = 250$ and $a + b + c = 10$, then what will be the value of $\frac{1}{3}(ab + bc + ca)$?

- Ans**
- 1. 10
 - 2. 25
 - 3. 15
 - 4. 5

Question ID : 6549786993

Status : Answered

Chosen Option : 4

Q.8 If an eleven-digit number $6578x43267y$ is divisible by 72, then the value of $\sqrt{x+6y}$ will be:

- Ans
- 1. 4
 - 2. 5
 - 3. 3
 - 4. 6

Question ID : 6549786996
Status : Answered
Chosen Option : 1

Q.9 The ratio of the ages of A and B, four years ago, was 4 : 5. Eight years hence, the ratio of the ages of A and B will be 11 : 13. What is the ratio of their present ages?

- Ans
- 1. 11 : 9
 - 2. 9 : 11
 - 3. 7 : 8
 - 4. 8 : 7

Question ID : 6549786987
Status : Answered
Chosen Option : 2

Q.10 A solid metallic cube of side 4.4 cm is melted and recast in the form of a wire of radius 2 mm. Find the length (in cm) of the wire. (Use $\pi = \frac{22}{7}$)

- Ans
- 1. 767.6
 - 2. 338.8
 - 3. 2710.4
 - 4. 677.6

Question ID : 6549788093
Status : Answered
Chosen Option : 4

Q.11 Simplify the following expression.

$$\frac{0.8 \times 0.8 \times 0.8 + 0.6 \times 0.6 \times 0.6}{0.08 \times 0.08 + 0.06 \times 0.06 - 0.08 \times 0.06}$$

- Ans
- 1. 160
 - 2. 140
 - 3. 14
 - 4. 1.4

Question ID : 6549788105
Status : Answered
Chosen Option : 2

Q.12 The simple interest on a certain sum for $3\frac{1}{2}$ years at the rate of 10% per annum is ₹2,940. What will be the compound interest (in ₹) on the same sum for $1\frac{1}{2}$ years at the same rate when interest is compounded half-yearly (nearest to a rupee)?

- Ans**
- 1. 1,564
 - 2. 1,125
 - 3. 1,470
 - 4. 1,324

Question ID : 6549786988
Status : Answered
Chosen Option : 4

Q.13 If $x^2 + y^2 = 45$ and $x - y = 5$ then what is the value of $x^3 - y^3$?

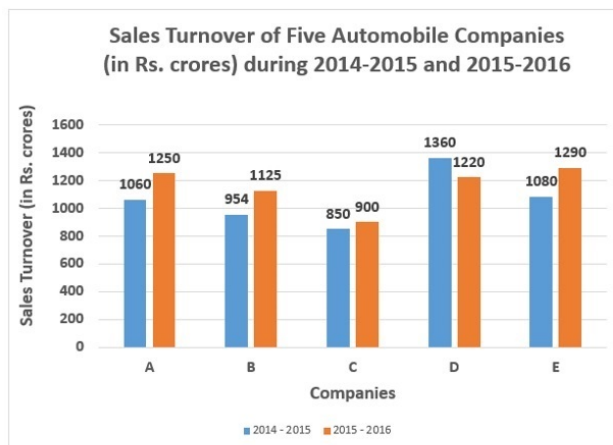
- Ans**
- 1. -25
 - 2. 250
 - 3. 275
 - 4. 150

Question ID : 6549788106
Status : Answered
Chosen Option : 3

Q.14 Study the given bar graph and answer the question that follows.

The given bar graph represents the Sales Turnover (in ₹ crore) of five automobile companies A, B, C, D and E during 2014-2015 and 2015-2016. The X-axis represents the Companies, and the Y-axis shows the Sales Turnover (in ₹ crore).

(The data shown here is only for mathematical exercise. They do not represent the actual figures of the company.)

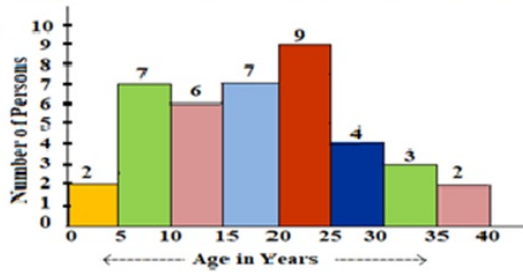


What should have been the sales turnover (in ₹ crore) of Company C in 2015-2016 to have shown the same increase in its sales over 2014-2015 as shown by the sales turnover of Company E?

- Ans**
- 1. 1,060
 - 2. 1,290
 - 3. 1,110
 - 4. 1,050

Question ID : 6549788922
Status : Answered
Chosen Option : 1

Q.15 Some persons went on an outstation tour. The histogram shows their ages.



If the children of age less than 15 years got concession, then how many persons got the concession?

- Ans
- 1. 13
 - 2. 15
 - 3. 22
 - 4. 25

Question ID : 6549788112

Status : Answered

Chosen Option : 2

Q.16 Simplify the following expression.

$$\left(3\frac{2}{3} \text{ of } \frac{3}{4} - \frac{1}{4} \text{ of } \frac{4}{3}\right) \div \left(\frac{1}{4} \div \frac{3}{2}\right) + 1\frac{1}{2}$$

- Ans
- 1. $\frac{143}{18}$
 - 2. $\frac{32}{3}$
 - 3. $\frac{29}{2}$
 - 4. 16

Question ID : 6549788108

Status : Answered

Chosen Option : 4

Q.17 A, B and C can independently complete the same task in 4, 6 and 12 days, respectively. In how many days will they be able to complete the same task if they work together?

- Ans
- 1. $2\frac{1}{4}$
 - 2. $2\frac{1}{2}$
 - 3. 3
 - 4. 2

Question ID : 6549788091

Status : Answered

Chosen Option : 4

Q.18 The lengths of three sides of a triangle are in the ratio 3 : 4 : 5. Among three sides, the difference between the largest side and the smallest side of this triangle is 3.6 cm. The area (in cm^2) of the triangle is:

- Ans
- 1. 21.75
 - 2. 19.44
 - 3. 32.4
 - 4. 15.64

Question ID : 6549786991

Status : Answered

Chosen Option : 2

Q.19 If A is 28% less than B and C is 25% less than the sum of A and B, then by what percentage will C be more than A (correct to one decimal place)?

- Ans
- 1. 84.3%
 - 2. 75.5%
 - 3. 81.6%
 - 4. 79.2%

Question ID : 6549786985

Status : Answered

Chosen Option : 4

Q.20 $\triangle ABC$ is right-angled at B and D is a point on AC such that BD is perpendicular to AC. If $BD = 6$ cm and $AD = 3$ cm, then what will be the length of AC?

- Ans
- 1. 9 cm
 - 2. 15 cm
 - 3. 12 cm
 - 4. 18 cm

Question ID : 6549788103

Status : Answered

Chosen Option : 2

Q.21 If a person travels at a speed of 48 km/h, he will reach his destination on time. He covers two-thirds of his journey in five-sixths of time. At what speed (in km/h) should he travel to cover the remaining distance to reach his destination on time?

- Ans
- 1. 96
 - 2. 48
 - 3. 50
 - 4. 100

Question ID : 6549786981

Status : Answered

Chosen Option : 4

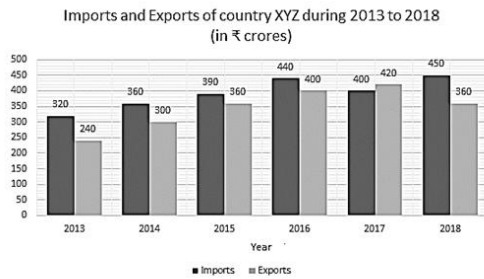


Q.22 If $21 \tan \theta = 20$, then $(1 + \sin \theta - \cos \theta) : (1 - \sin \theta + \cos \theta)$ is equal to:

- Ans
- 1. 11 : 13
 - 2. 14 : 15
 - 3. 12 : 11
 - 4. 13 : 15

Question ID : 6549786999
 Status : Answered
 Chosen Option : 2

Q.23 Study the given graph and answer the question that follows.



What percentage of the imports in 2018 is the average exports in 2013, 2015 and 2017? (correct to one decimal place)

- Ans
- 1. 72.4
 - 2. 71.6
 - 3. 77.8
 - 4. 75.6

Question ID : 6549786598
 Status : Answered
 Chosen Option : 4

Q.24 Simplify the following expression.

$$\cos^2 30^\circ + \cos^2 40^\circ + \cos^2 50^\circ + \cos^2 60^\circ$$

- Ans
- 1. 1
 - 2. $\frac{5}{2}$
 - 3. $\frac{3}{2}$
 - 4. 2

Question ID : 6549788109
 Status : Answered
 Chosen Option : 4

Q.25 The average score of 84 students (boys and girls) in a test is 95. The ratio of the number of boys to that of girls is 10 : 11. The average score of the boys is 20% less than that of the girls. What is the average score of the boys in the test?

- Ans
- 1. 105
 - 2. 84
 - 3. 120
 - 4. 95

Question ID : 6549786983
Status : Answered
Chosen Option : 2