

SSC CHSL (10+2) PAPER-2018 25 Sets

1. CHSL (10+2) Examination-2018

Test Time 4:00 PM - 5:00 PM

Test Date 01/07/2019

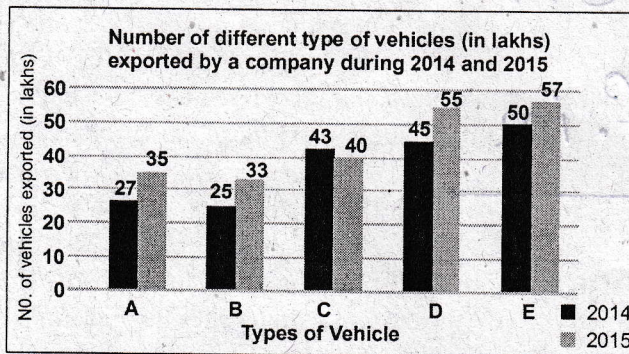
1. The area of a field in the shape of a hexagon is $2400\sqrt{3}$ m². What will be the cost of fencing it at ₹18.50 per metre?

- (1) ₹4440 (2) ₹5920
(3) ₹5550 (4) ₹5180

2. In a circle with centre O. AD is a diameter and AC is a chord. B is a point on AC, such that OB=5 cm and $\angle OBA = 60^\circ$. If $\angle DOC = 60^\circ$, then what is the length of BC?

- (1) 4 cm (2) $3\sqrt{5}$ cm
(3) $5\sqrt{3}$ cm (4) 5 cm

3. The given Bar Graph presents the number of different types of vehicles (in lakhs) exported by a company during 2014 and 2015.



The total number of type B, D and E vehicles exported in 2014 is what percentage of the total number of type A, C, D and E vehicles exported in 2015 (correct to one decimal place)?

- (1) 62.4% (2) 61.6%
(3) 63.8% (4) 64.2%

4. A and B can complete a task in 25 days. B alone can complete $33\frac{1}{3}\%$ of the same task in 15 days. In how many days can A alone complete $\frac{4}{15}$ th of the same task?

- (1) 15 (2) 10
(3) 18 (4) 12

5. Tangents AB and AC are drawn to a circle from a point A, such that $\angle BAC = 40^\circ$. A chord CP is drawn parallel to BA. The measure of $\angle CBP$ is:

- (1) 55° (2) 45°
(3) 35° (4) 40°

6. The marked price of an article is ₹600. After allowing a discount of 25% on the marked price, there was a loss of ₹30. The loss percentage is:

- (1) 7.50% (2) 7.25%
(3) 6.25% (4) 6.50%

7. What is the difference between the compound interest, when interest is compounded 5-monthly, and the simple interest on a sum of ₹12,000 for $1\frac{1}{4}$ years at 12% per annum?

- (1) ₹90 (2) ₹91.50
(3) ₹93 (4) ₹92.50

8. A man travels a certain distance at 12 km/h and returns to the starting point at 9 km/h. The total time taken by him for the entire journey is $2\frac{1}{3}$ hours. The total distance (in km) covered by him is:

- (1) 25 (2) 12
(3) 24 (4) 28

9. $\frac{\cot \theta}{(1 - \sin \theta)(\sec \theta + \tan \theta)}$ is equal to:

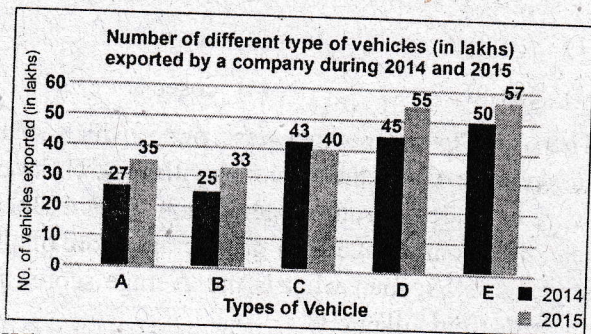
- (1) $\operatorname{cosec} \theta$ (2) $\sin \theta$
(3) $\sec \theta$ (4) 1

10. There are three numbers. If the average of any two of them is added to the third number, the sums obtained are 177, 163 and 138. What is the average of the largest and the smallest of the given numbers?

- (1) 76 (2) 79
(3) 81 (4) 67

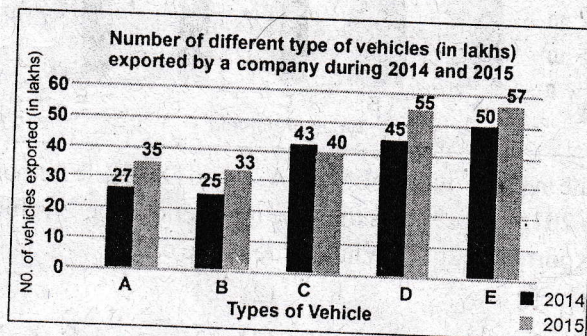


11. The given Bar Graph presents the number of different types of vehicles (in lakhs) exported by a company during 2014 and 2015.



What is the ratio of the total number of type A and C vehicles exported in 2014 to the total number of type B and E vehicles exported in 2015?

- (1) 8 : 11 (2) 7 : 9
(3) 2 : 3 (4) 5 : 7
12. If $x + y = 7$ and $xy = 10$, then the value of $\left(\frac{1}{x^3} + \frac{1}{y^3}\right)$ is:
- (1) 0.543 (2) 0.131
(3) 0.133 (4) 0.453
13. A man spends 72% of his income. If his income increases by 28% and his expenditure increases by 25%, then what is the percentage increase or decrease in his savings (correct to one decimal place)?
- (1) 26.9% decrease (2) 38.4% increase
(3) 35.7% increase (4) 26.3% decrease
14. The value of $\frac{3}{4} \div \frac{3}{4}$ of $\frac{3}{4} \times \frac{4}{3} + \frac{5}{2} \div \frac{2}{5} - \left(\frac{2}{3} + \frac{2}{3}\right)$ of $\frac{5}{6}$ is:
- (1) $\frac{14}{3}$ (2) $\frac{41}{9}$
(3) $\frac{22}{3}$ (4) $\frac{50}{9}$
15. If the nine-digit number $43x1145y2$ is divisible by 88, then the value of $(3x - 2y)$, for the smallest value of y , is:
- (1) 22 (2) 18
(3) 20 (4) 9
16. A sum of ₹4,360 was to be divided among A, B, C and D in the ratio of 3 : 4 : 5 : 8, but it was divided in the ratio of $\frac{1}{3} : \frac{1}{4} : \frac{1}{5} : \frac{1}{8}$ by mistake. As a result:
- (1) A received ₹956 more
(2) B received ₹318 more
(3) D received ₹1,144 less
(4) C received ₹132 less
17. By selling 72 articles, a loss equal to the selling price of 8 articles was incurred. What is the loss percentage?
- (1) 12% (2) 10%
(3) $9\frac{1}{9}\%$ (4) $11\frac{1}{9}\%$
18. If $2\cos^2\theta - 5\cos\theta + 2 = 0$, $0^\circ < \theta < 90^\circ$, then the value of $(\operatorname{cosec}\theta + \cot\theta)$ is:
- (1) $\frac{1}{\sqrt{3}}$ (2) $\sqrt{3}$
(3) $\frac{1}{3}$ (4) $2\sqrt{3}$
19. If $8x^2 + y^2 - 12x - 4xy + 9 = 0$, then the value of $(14x - 5y)$ is:
- (1) 9 (2) 6
(3) 5 (4) 3
20. The given Bar Graph presents the number of different types of vehicles (in lakhs) exported by a company during 2014 and 2015.



Which type of vehicle showed 32% increase in export in 2015 as compared to that in the previous year?

- (1) B (2) A
(3) E (4) D
21. The sides AB and AC of ΔABC are produced to points D and E, respectively. The bisectors of $\angle CBD$ and $\angle BCE$ meet at P. If $\angle A = 72^\circ$, then the measure of $\angle P$ is:
- (1) 36° (2) 45°
(3) 60° (4) 54°
22. If $x + y + z = 19$, $xyz = 216$ and $xy + yz + zx = 114$, then the value of $\sqrt{x^3 + y^3 + z^3 + xyz}$ is:
- (1) 32 (2) 30
(3) 28 (4) 35



23. The value of $\frac{\tan 13^\circ \tan 37^\circ \tan 45^\circ \tan 53^\circ \tan 77^\circ}{2 \cos^2 60^\circ (\cos^2 60^\circ - 3 \cos 60^\circ + 2)}$ is:

(1) 2 (2) 1

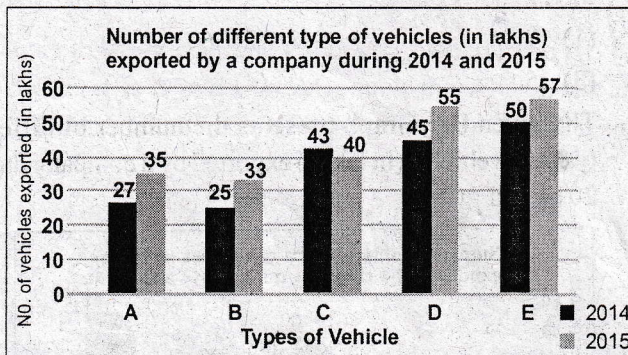
(3) $\frac{3}{2}$ (4) $\frac{1}{2}$

24. In $\triangle ABC$, D is a point on side AB such that $BD = 2$ cm and $DA = 3$ cm. E is a point on BC such that $DE \parallel AC$, and $AC = 4$ cm. Then (Area of $\triangle BDE$): (Area of trapezium ACED) is :

(1) 4 : 21 (2) 2 : 5

(3) 1 : 5 (4) 4 : 25

25. The given Bar Graph presents the number of different types of vehicles (in lakhs) exported by a company during 2014 and 2015.



The average number of type A, B and D vehicles exported in 2015 was $x\%$ less than the number of type E vehicles exported in 2014. What is the value of x ?

(1) 18 (2) 24

(3) 20 (4) 25

Answers

1. (1)	2. (4)	3. (4)	4. (1)	5. (4)
6. (3)	7. (2)	8. (3)	9. (1)	10. (1)
11. (2)	12. (3)	13. (3)	14. (4)	15. (1)
16. (3)	17. (2)	18. (2)	19. (2)	20. (1)
21. (4)	22. (4)	23. (4)	24. (1)	25. (1)

2. CHSL (10+2) Examination-2018

Test Time 10:00 AM - 11:00 AM

Test Date 02/07/2019

1. A person sold an article at a loss of 8%. Had he sold it at a gain of 10.5%, he would have received ₹37 more. What is the cost price of the article?

(1) ₹240 (2) ₹200

(3) ₹210 (4) ₹250

2. $\frac{(\sec \theta + \tan \theta)(1 - \sin \theta)}{\cos \theta (1 + \cos \theta)(\cos \theta - \cot \theta)}$ is equal to:

(1) $\sec \theta$ (2) $\sin \theta$

(3) $\cos \theta$ (4) $\operatorname{cosec} \theta$

3. There are 90 students in a class, out of which 70% are from village A and others are from village B. The average score of students from village B in a test is 20% more than that from village A. If the average score of all the students is 53, then what is the average score of the students from village B?

(1) 50 (2) 60

(3) 64 (4) 54

4. A is 20% more than B, B is 25% more than C, C is 60% less than D and D is 20% more than E. Based on the above information, which of the following is true?

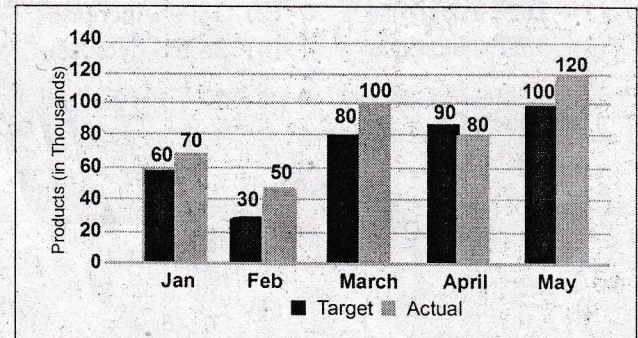
(1) E is 28% more than A.

(2) A is 40% less than D.

(3) C is 24% less than A.

(4) D is 60% less than B.

5. The given Bar Graph presents the target and actual production of AC Machines (numbers in thousands) of a factory over five months.



The ratio of the combined target production of AC Machines in January and April to that of the combined actual production of AC Machines in March and April was:

(1) 5:6 (2) 2:3

(3) 4:5 (4) 3:2

6. If the eight-digit number $342x8y6$ is divisible by 72, then what is the value of $\sqrt{9x+y}$, for the largest value of y ?

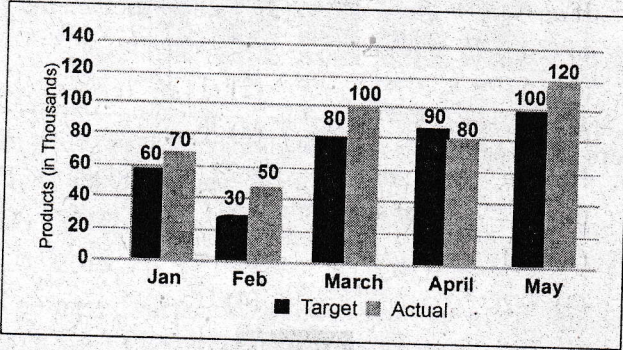
(1) $4\sqrt{7}$ (2) 6

(3) 8 (4) $2\sqrt{7}$



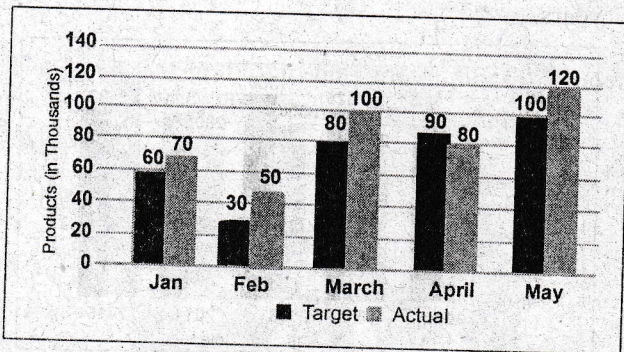
7. If 30 persons take 10 days to complete a certain work working 8 hours a day, then 40 persons should work how many hours a day so that the work is completed in 6 days?
- (1) 12 (2) 8
(3) 6 (4) 10

8. The given Bar Graph presents the target And Actual production of AC Machines (numbers in thousands) of a factory over five months.



In which month the actual production of AC machines was 25% more than the target production?

- (1) March (2) May
(3) January (4) February
9. After allowing a discount of 10% on the marked price of an article, it is sold for ₹360. Had the discount not been given, the profit would have been 25%. what is the cost price of the article?
- (1) ₹325 (2) ₹350
(3) ₹360 (4) ₹320
10. The given Bar Graph presents the target And Actual production of AC Machines (numbers in thousands) of a factory over five months.



The actual production of AC Machines in April was that what percentage more than the average target production of AC Machines over five months?

- (1) $10\frac{1}{9}\%$ (2) $11\frac{1}{9}\%$
(3) 10% (4) 9%

11. The volume of a right circular cone is 924 cm^3 . If its height is 18 cm, then the area of its base (in cm^2) is:
- (1) 132 (2) 198
(3) 176 (4) 154
12. Two circles of radii 15 cm and 12 cm intersect each other, and the length of their common chord is 18 cm. what is the distance (in cm) between their centres?

- (1) $12 + 2\sqrt{7}$ (2) $18 + \sqrt{7}$
(3) $15 + \sqrt{7}$ (4) $12 + 3\sqrt{7}$

13. If $3\sqrt{3x^3} - 2\sqrt{2y^3} = (\sqrt{3x} - \sqrt{2y})(Ax^2 - Bxy + Cy^2)$, then the value of $(A^2 - B^2 + C^2)$ is:

- (1) 7 (2) 10
(3) 17 (4) 1

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

- (1) ₹2,272 (2) ₹2,372
(3) ₹2,227 (4) ₹2,327

15. The value of $\frac{3 \div \{5 - 5 \div (6 - 7) \times 8 + 9\}}{4 + 4 \times 4 \div 4 \text{ of } 4}$ is:

- (1) $\frac{1}{18}$ (2) $\frac{1}{45}$
(3) $\frac{1}{3}$ (4) $\frac{1}{90}$

16. In $\triangle ABC$, D and E are the points on sides AB and AC, respectively, such that DE is parallel to BC. If $DE \parallel BC$ is 3 : 5, then (Area of $\triangle ADE$) : (Area of quadrilateral DECB) is :

- (1) 9 : 16 (2) 5 : 8
(3) 3 : 4 (4) 9 : 25

17. Two concentric circles are of radii 15cm and 9cm. What is the length of the chord of the larger circle which is tangent to the smaller circle?

- (1) 24 cm (2) 18 cm
(3) 20 cm (4) 25 cm



18. The ratio of incomes of A and B is 2 : 3 and that of their expenditures is 1 : 2. If 90% of B's expenditure is equal to the income of A, then what is the ratio of the savings of A and B?

- (1) 3 : 2 (2) 1 : 1
 (3) 8 : 7 (4) 9 : 8

19. If $\cot \theta = \frac{1}{\sqrt{3}}$, then the value of

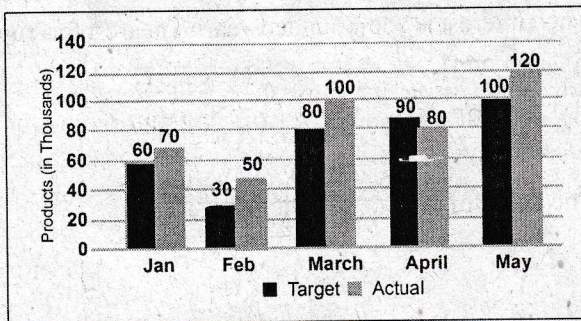
$\frac{2 - \sin^2 \theta}{1 - \cos^2 \theta} + (\operatorname{cosec}^2 \theta + \sec \theta)$ is:

- (1) 4 (2) 7
 (3) 6 (4) 5

20. If $\cos^2 \theta - \sin^2 \theta - 3 \cos \theta + 2 = 0$, $0^\circ < \theta < 90^\circ$, then what is the value of $4 \operatorname{cosec} \theta + \cot \theta$?

- (1) 3 (2) 4
 (3) $3\sqrt{3}$ (4) $4\sqrt{3}$

21. The given Bar Graph presents the target And Actual production of AC Machines (numbers in thousands) of a factory over five months.



The total target production of AC Machines in February, April and May was what percentage less than the total actual production of AC Machines over all the five months?

- (1) 47.1% (2) 46.2 %
 (3) 46.8% (4) 47.6%

22. In ΔABC , $AB = 7\text{cm}$, $BC = 24\text{cm}$ & $AC = 25\text{cm}$. If G is the centroid of the triangle, then what is the length of BG?

- (1) $8\frac{1}{3}$ (2) 10
 (3) $8\frac{2}{3}$ (4) 9

23. Two trains of same length are running on parallel tracks in the same direction at 54 km/hr and 42 km/hr respectively. The faster train passes the other train in 63 seconds. What is the length of each train?

- (1) 81
 (2) 90
 (3) 105
 (4) 210

24. If $a^2 + 4b^2 + 49c^2 + 18 = 2(2b + 28c - a)$, then the value of $(3a + 2b + 7c)$ is:

- (1) 2 (2) 1
 (3) 3 (4) 0

25. If $a + b + c = 5$, $a^2 + b^2 + c^2 = 27$, and $a^3 + b^3 + c^3 = 125$, then the value of $4abc$ is:

- (1) 20 (2) -15
 (3) -20 (4) 15

Answers

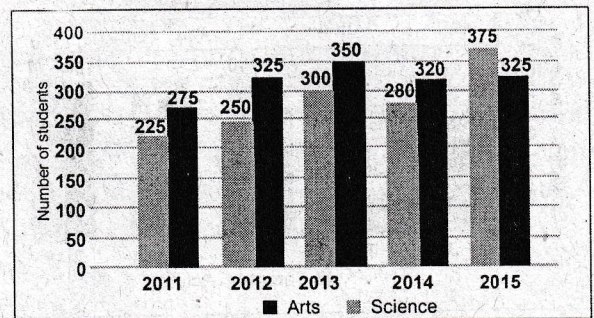
1. (2)	2. (3)	3. (2)	4. (2)	5. (1)
6. (2)	7. (4)	8. (1)	9. (4)	10. (2)
11. (4)	12. (4)	13. (1)	14. (1)	15. (4)
16. (1)	17. (1)	18. (3)	19. (4)	20. (3)
21. (4)	22. (1)	23. (3)	24. (1)	25. (3)

3. CHSL (10+2) Examination-2018

Test Time 1:00 PM - 2:00 PM

Test Date 02/07/2019

1. The given Bar graph presents the number of students from Science and Arts streams from a school in different years.

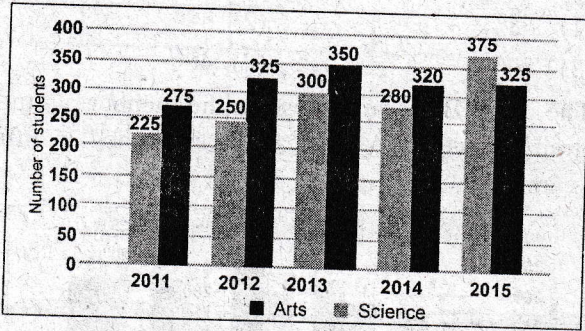


What is the ratio of the total number of Science students in 2011 and 2015 to that of Arts in 2012 and 2015?

- (1) 12 : 13 (2) 8 : 9
 (3) 11 : 12 (4) 9 : 10



2. The given Bar graph presents the number of students from Science and Arts streams from a school in different years.

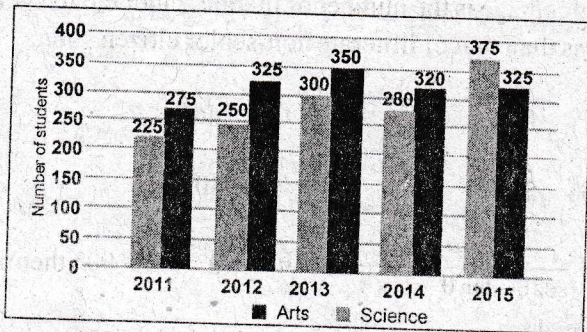


In which year the number of Arts students is 30% more than that of Science?

- (1) 2012 (2) 2014
 (3) 2013 (4) 2011
3. The curved surface area and the volume of a cylindrical pole are 132m^2 and 528m^3 , respectively. What is the height (in m) of the pole?
- (1) $2\frac{1}{2}$ (2) $2\frac{5}{8}$
 (3) $3\frac{5}{8}$ (4) $3\frac{1}{2}$
4. If $\theta \Rightarrow 2\cos^2\theta$, $0^\circ < \theta < 90^\circ$, then find the value of $(\tan\theta + \cos\theta + \sin\theta)$ is:

- (1) $\frac{5\sqrt{3}}{3}$ (2) $\frac{5\sqrt{3}}{6}$
 (3) $\frac{3+5\sqrt{3}}{6}$ (4) $\frac{3+5\sqrt{3}}{3}$

5. The given Bar graph presents the number of students from Science and Arts streams from a school in different years.



The total number of Arts students in 2011, 2013 and 2015 is what percentage less than that of Science in the given five years?

- (1) 34.2% (2) 32.8%
 (3) 33.6% (4) 31.4%

6. If $\operatorname{cosec} 31^\circ = x$,

$$\sin^2 59^\circ + \frac{1}{\operatorname{cosec}^2 31^\circ} + \tan^2 59^\circ - \frac{1}{\sin^2 59^\circ \operatorname{cosec}^2 59^\circ}$$

is equal to:

- (1) $x^2 - 1$ (2) $x + 1$
 (3) $x - 1$ (4) $x^2 + 1$

7. The simplified value of

$$\left[\frac{\sin^2 25^\circ + \sin^2 65^\circ}{\cos^2 24^\circ + \cos^2 66^\circ} + \sin^2 71^\circ + \cos 71^\circ \sin 19^\circ \right]$$
 is:

- (1) 2 (2) 0
 (3) 1 (4) 3

8. The ratio of the present ages of A and B is 6 : 5. Four years ago, this ratio was 5 : 4. What will be the ratio of the ages of A and B after 12 years from now?

- (1) 7 : 6 (2) 9 : 8
 (3) 8 : 7 (4) 3 : 2

9. PAT is a tangent to a circle at point A on it, and AB is a chord such that $\angle BAT = 72^\circ$. If C is a point on the circle such that $\angle CBA = 58^\circ$, then what is the measure of $\angle CAB$?

- (1) 60° (2) 62°
 (3) 48° (4) 50°

10. When an article is sold for Rs. 291 there is a loss of 3%. What will be the selling price of the article, if it is sold at a gain of 8%?

- (1) ₹332 (2) ₹324
 (3) ₹316 (4) ₹308

11. If the nine-digit number $8175x45y2$ is divisible by 72, then the value of $\sqrt{4x+1}$, for the largest value of y , is:

- (1) 4 (2) 6
 (3) 5 (4) 8

12. If $a + b + c = 4$ and $ab + bc + ca = 1$, then the value of $a^3 + b^3 + c^3 - 3abc$ is:

- (1) 47 (2) 52
 (3) 50 (4) 60

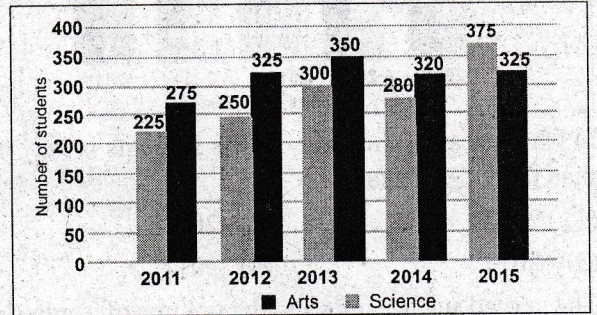
13. If $24\sqrt{3}x^3 + 2\sqrt{2}y^3 = (2\sqrt{3}x + \sqrt{2}y)(Ax^2 + Bxy + Cy^2)$ then

$(2A + \sqrt{6}B - C)$ is equal to:

- (1) 14 (2) 6
 (3) 8 (4) 10



14. A sum of ₹7500 amounts of ₹8748 after 2 year at a certain compound interest rate per annum. What will be the simple interest on the same sum for $4\frac{3}{5}$ year at double the earlier interest rate?
- (1) ₹8180 (2) ₹4140
(3) ₹5520 (4) ₹2760
15. A, B and C can finish a task in 42 days, 84 days and 28 days, respectively. A started the work, B joined him after 3 Days. If C joined them after 5 days from the beginning, then for how many days did A work till the completion of the task?
- (1) 18 (2) 20
(3) 17 (4) 15
16. The value of $3 \times 2 \div 3$ of $12 - 3 \div 2 \times (2 - 3) \times 2 + 3 \div 2$ of 3 is:
- (1) $3\frac{2}{3}$ (2) $-2\frac{1}{3}$
(3) $2\frac{1}{3}$ (4) $-3\frac{2}{3}$
17. In $\triangle ABC$, the bisectors $\angle B$ and $\angle C$ intersect each other at a point D. If $\angle BDC = 104^\circ$, then the measure of $\angle A$ is:
- (1) 28° (2) 26°
(3) 30° (4) 32°
18. The vertices A, B, C and D of a quadrilateral ABCD lie on a circle. $\angle A$ is thrice $\angle C$ and $\angle D$ is twice $\angle B$. What is the difference between the measures of $\angle B$ and $\angle C$?
- (1) 18° (2) 15°
(3) 28° (4) 20°
19. In a class of 80 students, 60% participate in games and the rest do not. The average weight of the former group 5% more than that of the latter. If the average weight of all the students is $52\frac{1}{2}$ Kg, then what is the average weight of the former group?
- (1) 52.5 (2) 57.6
(3) 60 (4) 54.5
20. In $\triangle ABC$, D and E are the point on sides AC and AB, respectively, such that $\angle ADE = \angle B$. If AD = 7.6 cm AE = 7.2 cm BE = 4.2 cm and BC = 8.4 cm, then DE is equal to:
- (1) 6.3 cm (2) 5.6 cm
(3) 7.4 cm (4) 5.8 cm
21. ABCD is a cyclic quadrilateral such that AB is a diameter of the circle circumscribing it and $\angle ADC = 158^\circ$. Then $\angle BAC$ is equal to :
- (1) 68° (2) 38°
(3) 50° (4) 40°
22. The given Bar graph presents the number of students from Science and Arts streams from a school in different years.



The average number of Science students in 2011, 2013 and 2015 is what percentage more than the number of Arts student in 2011?

- (1) $9\frac{3}{11}\%$ (2) $8\frac{1}{9}\%$
(3) $11\frac{1}{9}\%$ (4) $9\frac{1}{11}\%$
23. Amit travelled from A to B at an average speed of 80 km/hr. He travelled the first 75% of the distance in two-third of the time and the rest at a constant speed of x km/hr. The value of x is:
- (1) 64 (2) 56
(3) 54 (4) 60
24. In a constituency, 40% of the voters are senior citizens. 40% of the senior citizen voters are illiterates and 25% of the non-senior citizen voter are literates. By what percentage is the number of literate senior citizen voters less than that of illiterate non-senior citizen voters?
- (1) $48\frac{1}{3}$ (2) $46\frac{2}{3}$
(3) 50 (4) 40
25. If $\frac{1}{\sec\theta - \tan\theta} - \frac{1}{\cos\theta} = \sec\theta \times k$, $0^\circ < \theta < 90^\circ$ then K is equal to:
- (1) $\sin\theta$ (2) $\operatorname{cosec}\theta$
(3) $\cot\theta$ (4) $\tan\theta$



Answers

1. (1)	2. (1)	3. (2)	4. (3)	5. (3)
6. (1)	7. (1)	8. (2)	9. (4)	10. (2)
11. (3)	12. (2)	13. (4)	14. (3)	15. (3)
16. (1)	17. (1)	18. (2)	19. (1)	20. (2)
21. (1)	22. (4)	23. (4)	24. (2)	25. (1)

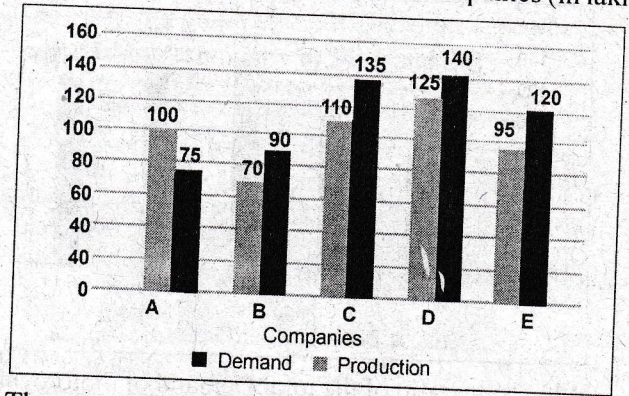
4. CHSL (10+2) Examination-2018

Test Time 4:00 PM - 5:00 PM

Test Date 02/07/2019

- Anu spends 90% of her income. If her expenditure increases by 25% and savings increase by 30%, then by what percent does her salary increase?
 (1) 25.5% (2) 24%
 (3) 22.5% (4) 20%
- Let $\Delta ABC \sim \Delta QPR$ and $\frac{ar(\Delta ABC)}{ar(\Delta PQR)} = \frac{9}{16}$. If $AB = 12$ cm, $BC = 6$ cm and $AC = 9$ cm, then QP is equal to:
 (1) 16 cm (2) 9 cm
 (3) 12 cm (4) 8 cm
- A circle is inscribed in a quadrilateral $ABCD$, touching sides AB, BC, CD and DA at P, Q, R and S , respectively. If $AS = 8$ cm, $BC = 11$ cm, and $CR = 5$ cm, then the length AB is equal to:
 (1) 12 cm (2) 13 cm
 (3) 16 cm (4) 14 cm
- If $3\cos^2 A + 6\sin^2 A = 3, 0^\circ \leq A \leq 90^\circ$, then the value of A is:
 (1) 30° (2) 0°
 (3) 90° (4) 45°
- In ΔABC , $AD \perp BC$ at D and AE is the bisector of $\angle A$. If $\angle B = 72^\circ$ and $\angle C = 26^\circ$, then what is the measure of $\angle DAE$?
 (1) 23° (2) 25°
 (3) 49° (4) 37°
- The value of $\frac{(\cos 9^\circ + \sin 81^\circ)(\sec 9^\circ + \operatorname{cosec} 81^\circ)}{\sin 56^\circ \sec 34^\circ + \cos 25^\circ \operatorname{cosec} 65^\circ}$
 (1) $\frac{1}{2}$ (2) 4
 (3) 2 (4) 1

- The given Bar Graph presents the Demand and Production of motorcycles of five companies (in lakhs).



The average Production of motorcycles of companies B, C and E taken together is what percent less than the Demand of motorcycles of D?

- 8% (2) 8.7
 (3) 9.3% (4) 6%
- A simplified value of $\left(\frac{\sin \theta}{1 + \cos \theta} + \frac{1 + \cos \theta}{\sin \theta} \right)$ is:
 $\left(\frac{1}{\tan \theta + \cot \theta} \right)$ is:
 (1) $\cos \theta$ (2) $2 \sin \theta$
 (3) $\sin \theta$ (4) $2 \cos \theta$
- If $3 - 2\sin^2 \theta - 3\cos \theta = 0, 0^\circ < \theta < 90^\circ$, then what is the value of $(2\operatorname{cosec} \theta + \tan \theta)$?
 (1) $7\sqrt{3}$
 (2) $5\sqrt{3}$
 (3) $\frac{5\sqrt{3}}{3}$
 (4) $\frac{7\sqrt{3}}{3}$
- Abhi sold two articles for ₹5,220 each. On one, he gained 16% and on the other, he lost 10%. His profit or loss on the whole was:
 (1) Profit, ₹140
 (2) Loss, ₹125
 (3) Profit, ₹180
 (4) Loss, ₹130



21. If $x^2 + 1 = 3x$, then the value of $\frac{(x^4 + x^{-2})}{(x^2 + 5x + 1)}$ is:

- (1) $2\frac{1}{3}$ (2) $2\frac{1}{4}$
 (3) $4\frac{1}{2}$ (4) $3\frac{1}{2}$

22. In an examination, the success to failure ratio was 5 : 2. Had the number of failures been 14 more, then the success to failure ratio would have been 9 : 5. The total number of candidates who appeared for the examination was:

- (1) 210 (2) 196
 (3) 126 (4) 203

23. In a circle, chords AB and CD intersect each other at E. If CD = 18 cm, DE = 6 cm and AE = 18 cm, then BE = ?

- (1) 6 cm (2) 8 cm
 (3) 3 cm (4) 4 cm

24. In $\triangle ABC$, $\angle A = 90^\circ$. If BL and CM are the medians, then:

- (1) $4(BL^2 + CM^2) = 3BC^2$
 (2) $4(BL^2 + CM^2) = 5BC^2$
 (3) $3(BL^2 + CM^2) = 4BC^2$
 (4) $5(BL^2 + CM^2) = 4BC^2$

25. The radius of the base of a cylinder is 7 cm and its curved surface area is 440 cm^2 . Its volume (in cm^3) will be: (Take $\pi = \frac{22}{7}$)

- (1) 1760 (2) 1430
 (3) 1540 (4) 1650

Answers

1. (1)	2. (1)	3. (4)	4. (2)	5. (1)
6. (3)	7. (1)	8. (4)	9. (4)	10. (1)
11. (3)	12. (2)	13. (4)	14. (1)	15. (1)
16. (4)	17. (2)	18. (2)	19. (3)	20. (2)
21. (2)	22. (2)	23. (4)	24. (2)	25. (3)

5. CHSL (10+2) Examination-2018

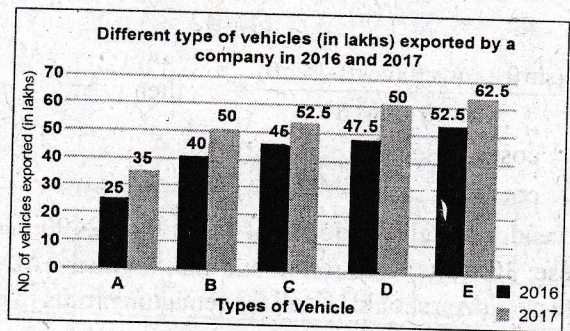
Test Time 10:00 AM - 11:00 AM

Test Date 03/07/2019

1. A circle circumscribes a rectangle whose sides are in the ratio 4 : 3. If the perimeter of the rectangle is 56 cm, then what is the area of the circle?

- (1) 90π (2) 70π
 (3) 96π (4) 100π

2. The given bar graph presents Different Type of Vehicles exported by a company in 2016 and 2017.



The export of which type of vehicles in 2017 is approximately 18.3% more than the export of same type of vehicles in 2016?

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

3. In $\triangle ABC$, $BD \perp AC$. E is a point on BC such that $\angle BEA = x^\circ$. If $\angle EAC = 38^\circ$ and $\angle EBD = 40^\circ$, then the value of x is:

- (1) 88° (2) 68°
 (3) 72° (4) 78°

4. A sum of ₹10000 amounts of ₹11664 in 2 year at a certain rate percent per annum, when the interest is compounded yearly. What will be the simple interest on

the same sum for $5\frac{2}{5}$ year at same rate?

- (1) ₹4320 (2) ₹4160
 (3) ₹3840 (4) ₹4040

5. O is the centre of a circle to which PAX and PBY are tangents from a point P at points A and B. Q is a point on the circle, such that $\angle QAX = 49^\circ$ and $\angle QBY = 62^\circ$. What is the measure of $\angle AQB$?

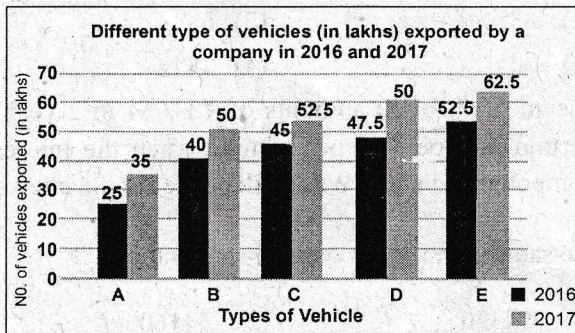
- (1) 59° (2) 67°
 (3) 69° (4) 71°

6. Pipes A and B can fill a tank in 8 hrs and 12 hrs, whereas pipe C can empty the tank in 6 hrs. A and B are opened for 3 hrs and then closed and C is opened intantly. C will empty the tank in:

- (1) $4\frac{1}{2}$ hrs (2) $3\frac{3}{4}$ hrs
 (3) $4\frac{1}{4}$ hrs (4) $3\frac{1}{2}$ hrs

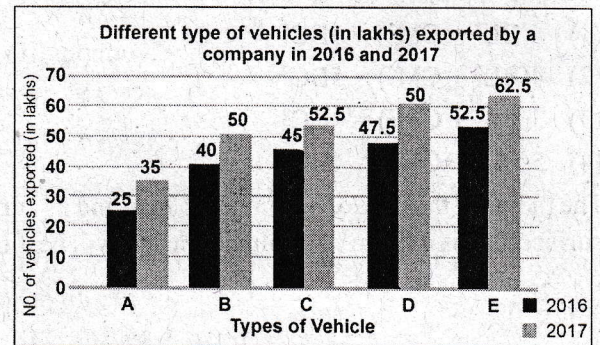


7. Eight year ago, the ratio of ages of A and B was 9 : 10. The ratio of their ages 4 years from now will be 12 : 13. What is the age of C, if his age is 6 year more than that of A?
 (1) 56 (2) 50
 (3) 48 (4) 42
8. If $\frac{(\sin \theta - \operatorname{cosec} \theta)(\cos \theta - \sec \theta)}{\tan^2 \theta - \sin^2 \theta} = r^3$, then $r =$
 (1) $\operatorname{cosec} \theta \sec \theta$ (2) $\tan \theta$
 (3) $\cot \theta$ (4) $\sin \theta \cos \theta$
9. A vendor bought 40 dozen of fruits for ₹2400. Out of these, 30 fruits were rotten and thrown away. At what rate per dozen should he sell the remaining fruits to make a profit of 25%?
 (1) ₹84 (2) ₹80
 (3) ₹90 (4) ₹72
10. If $x + y + z = 2$, $xy + yz + zx = -11$, then the value of $x^3 + y^3 + z^3 - 3xyz$ is:
 (1) 152 (2) 74
 (3) 70 (4) 72
11. The given bar graph presents Different Type of Vehicles exported by a company in 2016 and 2017.



What is the ratio of the total number of Vehicles of Type D and E exported by the company in 2016 to that of vehicles of type C and E exported in 2017?

- (1) 4 : 5 (2) 20 : 23
 (3) 13 : 23 (4) 4 : 5
12. If $24\sqrt{3}x^3 + 5\sqrt{5}y^3 = (2\sqrt{3}x + \sqrt{5}y)(Ax^2 + Bxy + Cy^2)$, then what is the value of $(A^2 - B^2 + C^2)$?
 (1) 139 (2) 108
 (3) 109 (4) 128
13. A 360 m long train running at a uniform speed, crosses a platform in 55 seconds and a man standing on the platform in 24 seconds. What is the length of the platform?
 (1) 445 (2) 410
 (3) 465 (4) 480
14. An article is marked at a price which is 1.2 times its cost price. After allowing a certain discount on the discount on the marked price, the profit reduces to 10%. The discount percent is:
 (1) $8\frac{2}{3}$ (2) 10
 (3) 9 (4) $8\frac{1}{3}$
15. In $\triangle ABC$, D and E are the point on sides AC and AB, respectively such that $\angle ADE = \angle B$. If $AE = 8$ cm, $CD = 3$ cm, $DE = 6$ cm and $BC = 9$ cm, then AD is equal to:
 (1) 10 cm (2) 9 cm
 (3) 8 cm (4) 7.5 cm
16. If an eleven-digit number $5y5888406x6$ is divisible by 72, then what is the value of $(9x - 2y)$, for the least value of x?
 (1) 3 (2) 7
 (3) 5 (4) 4
17. The given bar graph presents Different Type of Vehicles exported by a company in 2016 and 2017.



The total number of Vehicles of type C and E exported by the company in 2017 is what percentage more than the total number of vehicles of type A, B and C exported in 2016?

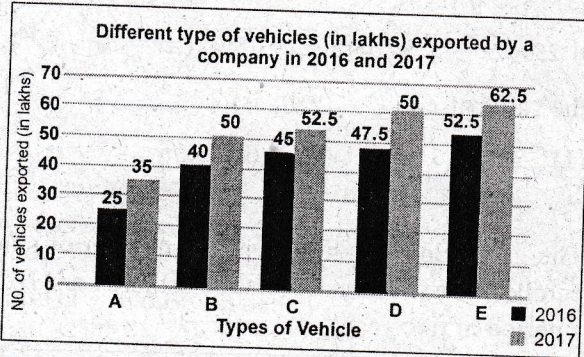
- (1) 4.9 (2) 4.5
 (3) 5.4 (4) 4.1
18. Sudha spends 80% of her income. When her income is increased by 30%, she increase her expenditure by 25%. Her savings are:
 (1) Decreased by 50% (2) Increased by 30%
 (3) Increased by 50% (4) Decreased by 30%
19. PQRS is a cyclic quadilateral. If $\angle P$ is four times $\angle R$ and $\angle S$ is three times $\angle Q$, then the sum of $\angle Q$ and $\angle R$ is :
 (1) 73° (2) 81°
 (3) 86° (4) 77°



20. The average weight of the students in a group was 75.4 kg. Later on, four students having weight, 72.9 kg, 73.8 kg, 79.5 kg, 87.4 kg joined the group. As a result, the average weight of all the student in the group increased by 0.24 kg. What was the number of student in the group initially?

- (1) 46 (2) 50
(3) 36 (4) 48

21. The given bar graph presents Different Type of Vehicles exported by a company in 2016 and 2017.



The average number of all types of vehicles exported by the company in 2016 is what percent less than the number of type B vehicles exported in 2017?

- (1) 15 (2) 18
(3) 16 (4) 12

22. The simplified value of $3 \times 2 \div 3$ of $2 \times 3 \div (5 + 5 \times 5 \div 5$ of $5 - 5 \div 10$ of $\frac{1}{5}$ is:

- (1) $\frac{2}{3}$ (2) $\frac{6}{7}$
(3) $\frac{17}{5}$ (4) $\frac{30}{59}$

23. If $\sin \theta \sec^2 \theta = \frac{2}{3}$, $0^\circ < \theta < 90^\circ$, then the value of $(\tan^2 \theta + \cos^2 \theta)$ is:

- (1) $\frac{11}{12}$ (2) $\frac{13}{12}$
(3) $\frac{5}{4}$ (4) $\frac{7}{6}$

24. If x is real, and $x^4 - 5x^2 - 1 = 0$, then the value of

$(x^6 - 3x^2 + \frac{3}{x^2} - \frac{1}{x^6} + 1)$ is:

- (1) 116 (2) 110
(3) 96 (4) 126

25. If $\cot \theta = \sqrt{6}$, then the value of $\frac{\operatorname{cosec}^2 \theta + \sec^2 \theta}{\operatorname{cosec}^2 \theta - \sec^2 \theta}$ is:

- (1) $\frac{48}{35}$ (2) $\frac{43}{36}$
(3) $\frac{7}{5}$ (4) $\frac{49}{36}$

Answers

1. (4)	2. (4)	3. (1)	4. (1)	5. (3)
6. (2)	7. (2)	8. (3)	9. (2)	10. (2)
11. (2)	12. (3)	13. (3)	14. (4)	15. (2)
16. (3)	17. (2)	18. (3)	19. (2)	20. (1)
21. (3)	22. (2)	23. (2)	24. (4)	25. (3)

6. CHSL (10+2) Examination-2018

Test Time 1:00 PM - 2:00 PM

Test Date 03/07/2019

- If one of the angles of a triangles is 64° , then the angle between the bisectors of the other two interior angles is:

(1) 122° (2) 112°
(3) 96° (4) 100°
- Let $\triangle ABC \sim \triangle QPR$ and $\frac{\operatorname{ar}(\triangle ABC)}{\operatorname{ar}(\triangle PQR)} = \frac{9}{16}$. If $AB = 12$ cm, $BC = 6$ cm and $AC = 9$ cm, then QR is equal to:

(1) 6 cm (2) 12 cm
(3) 15 cm (4) 9 cm
- If $x + \frac{1}{x} = 7$, $x^3 + \frac{1}{x^3}$ is equal to:

(1) 300 (2) 343
(3) 322 (4) 364
- A rectangle ABCD is inscribed in a circle with centre O. Its diagonal CA is produced to a point E, outside the circle. ED is a tangent to the circle at D. If $AC = 2BC$, then what is the measure of $\angle DEC$?

(1) 45° (2) 60°
(3) 30° (4) 40°
- A man get a discount of 30% and then 20% on his food bill. How much equivalent single discount does he get?

(1) 50% (2) 35%
(3) 40% (4) 44%



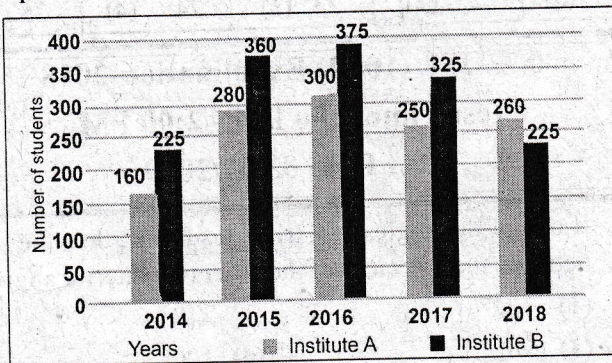
6. Given four different numbers, the average of first three numbers is four times the fourth number and the average of all the four numbers is 52. What is the average of the first three numbers?

- (1) 65 (2) 64
(3) 39 (4) 70

7. The price of a commodity is increased by 36% and the quantity purchased is decreased by 30%. What is the percentage increase/decrease in the amount spent on the commodity?

- (1) 4.8% decrease (2) 4.8% increase
(3) 6% increase (4) 6% decrease

8. The given Bar Graph present the number of students enrolled for a vocational course in institute A and B during a period of five year.



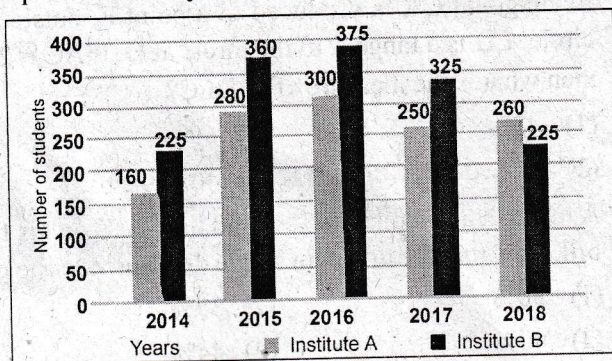
In which year the number of student enrolled in B is $x\%$ more, where $25 < x < 30$, then the number of student enrolled in A in the same year?

- (1) 2014 (2) 2017
(3) 2016 (4) 2015

9. The ratio of speed of A and B is 3 : 5. If A takes 24 min more than B to cover a certain distance, then how much time will B take to cover the same distance?

- (1) 40 (2) 36
(3) 30 (4) 18

10. The given Bar Graph present the number of students enrolled for a vocational course in institute A and B during a period of five year.



The total number of students enrolled in A during 2014, 2016 and 2018 is what percentage of the total number of students enrolled in B during the five years?

- (1) 44.6 (2) 47.7
(3) 43.4 (4) 46.8

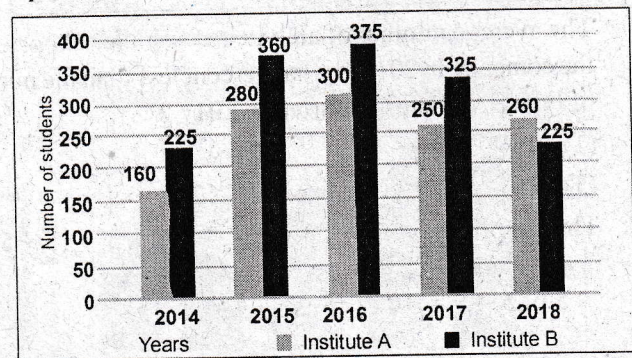
11. If $\sqrt{\frac{1-\cos\theta}{1+\cos\theta}} \times \sqrt{\frac{\operatorname{cosec}\theta - \cot\theta}{\operatorname{cosec}\theta + \cot\theta}} = \frac{1-r}{1+r}$ then the value of r is:

- (1) cosec θ (2) sin θ
(3) sec θ (4) cos θ

12. If $250\sqrt{2}x^3 - 5\sqrt{5}y^3 = (5\sqrt{2}x - \sqrt{5}y)(Ax^2 + Bxy + Cy^2)$, then the value of $(A+C - \sqrt{10}B)$ is:

- (1) 5 (2) $5\sqrt{2}$
(3) 10 (4) $2\sqrt{5}$

13. The given Bar Graph present the number of students enrolled for a vocational course in institute A and B during a period of five year.



The average number of students enrolled in B during 2015, 2016 and 2018 is what percentage more than the number of student enrolled in A during 2017?

- (1) 22 (2) 28
(3) 30 (4) 25

14. If x is not equal to -1, 2 and 5, then the simplified value

of $\left\{ \frac{2(x^3-8)}{x^2-x-2} \times \frac{x^2+2x+1}{x^2-4x-5} \div \frac{x^2+2x+4}{3x-15} \right\}$ is equal to:

- (1) 6 (2) $\frac{3}{2}$
(3) $\frac{2}{3}$ (4) $\frac{1}{6}$

15. By selling an article for Rs. 2300, Rekha gains 25%. If she sells it for Rs. 1955, then her loss/gain percent is:

- (1) Loss, 6.5% (2) Loss, 6.25%
(3) Gains, 6.5% (4) Gains, 6.25%



16. A wire is in the shape of a rectangle whose sides are in the ratio 7 : 4. If it was initially in the shape of a circle of radius, very nearly equal to 31.5 cm. The length of smaller side of the rectangle is:

- (1) 33 cm (2) 34 cm
(3) 32 cm (4) 36 cm

17. The marked price of an article is Rs. 400. After allowing a discount of 20% on the marked price, a shopkeeper makes a profit of Rs. 32. His gain percent is:

- (1) $11\frac{1}{9}$ (2) 9
(3) $12\frac{1}{9}$ (4) 8

18. Two numbers A and B are in the ratio 5 : 2. If 4 is added to each number then this ratio becomes 9 : 4. If 5 is subtracted from each of the original numbers, then the ratio of A and B will be:

- (1) 3 : 8 (2) 8 : 3
(3) 4 : 1 (4) 3 : 1

19. The Simplified value of

$$\left(\frac{7}{5} \div \frac{7}{10} \text{ of } \frac{3}{4}\right) \div \frac{4}{9} - \left(\frac{7}{16} \div 10\frac{1}{2} \times 7\frac{1}{5}\right) \times \frac{5}{12}$$

- (1) $\frac{39}{4}$ (2) $\frac{41}{4}$
(3) $\frac{47}{8}$ (4) $\frac{49}{8}$

20. In $\triangle ABC$, AD, the bisector of $\angle A$, meet BC at D. If $BC = a$, $AC = b$ and $AB = c$, then $BD - DC$

- (1) $\frac{a(c+b)}{c-b}$ (2) $\frac{ab}{b+c}$
(3) $\frac{a(c-b)}{c+b}$ (4) $\frac{ac}{b+c}$

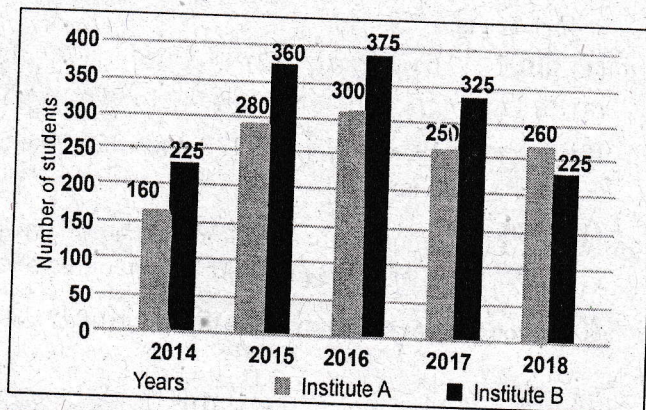
21. A certain sum amounts to ₹29282 in 4 years at 10% per annum, when the interest is compounded annually. What is the simple interest on the same sum for same time at the same rate?

- (1) ₹7600 (2) ₹8500
(3) ₹8000 (4) ₹8400

22. In a circle with centre O, ABDC is a cyclic quadrilateral with AB a diameter of the circle. AC and BD produced meet at E. If $\angle CED = 70^\circ$, then what is the measure of $\angle COD$?

- (1) 45° (2) 60°
(3) 30° (4) 40°

23. The given Bar Graph present the number of students enrolled for a vocational course in institute A and B during a period of five year.



What is the ratio of the total numbers of student enrolled in A during 2015 & 2018 to that of students enrolled in B during 2014 & 2016?

- (1) 9 : 10 (2) 11 : 12
(3) 12 : 13 (4) 10 : 9

24. A and B together can do a piece of work in 10 days, B and C together can do it in 15 days while C and A together do it in 20 days. They work together for 8 days. C alone will complete the remaining work in:

- (1) $3\frac{1}{5}$ days (2) $5\frac{1}{3}$ days
(3) 16 days (4) 12 days

25. If $\frac{1}{1-\sin\theta} + \frac{1}{1+\sin\theta} = 4\sec\theta$, $0^\circ < \theta < 90^\circ$, then the value of $(3\cot\theta + \operatorname{cosec}\theta)$ is:

- (1) $\frac{5\sqrt{3}}{3}$ (2) $4\sqrt{3}$
(3) $\frac{2\sqrt{3}}{3}$ (4) $5\sqrt{3}$

Answers

1. (1)	2. (2)	3. (3)	4. (3)	5. (4)
6. (2)	7. (1)	8. (4)	9. (2)	10. (2)
11. (4)	12. (1)	13. (2)	14. (1)	15. (4)
16. (4)	17. (1)	18. (4)	19. (3)	20. (3)
21. (3)	22. (4)	23. (1)	24. (3)	25. (1)

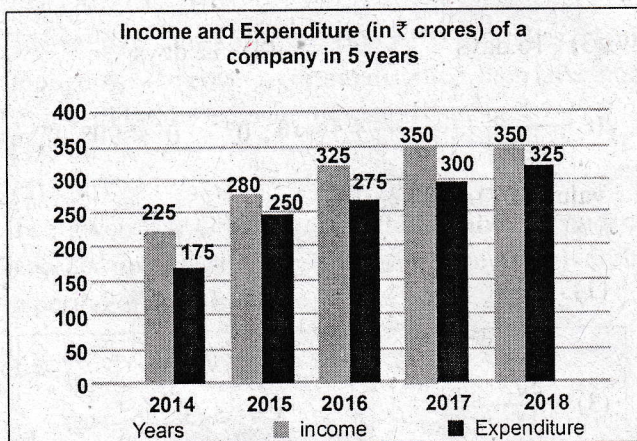


7. CHSL (10+2) Examination-2018

Test Time 4:00 PM - 5:00 PM

Test Date 03/07/2019

1. If $9a^2 + 16b^2 + c^2 + 25 = 25(a + b)$, then the value of $(3a + 4b + 5c)$ is:
 - (1) 10
 - (2) 7
 - (3) 6
 - (4) 9
2. If $x + y + z = 19$, $x^2 + y^2 + z^2 = 133$, then the value of $x^3 + y^3 + z^3 - 3xyz$ is:
 - (1) 380
 - (2) 352
 - (3) 361
 - (4) 342
3. If $x = \cot(60^\circ + 6x)$, then what is the value of x ?
 - (1) $\frac{15^\circ}{2}$
 - (2) 10°
 - (3) 12°
 - (4) $\frac{30^\circ}{7}$
4. An article is sold for Rs. 360 after allowing discount of 20% on its marked price. Had the discount not been allowed, the profit would have been 50%. The cost price of the article is:
 - (1) Rs. 320
 - (2) Rs. 350
 - (3) Rs. 360
 - (4) Rs. 300
5. The given Bar Graph presents Income and Expenditure of a company for the five years, 2014-2018.



The average Income of the company in five years is what percentage more than its Expenditure in 2015?

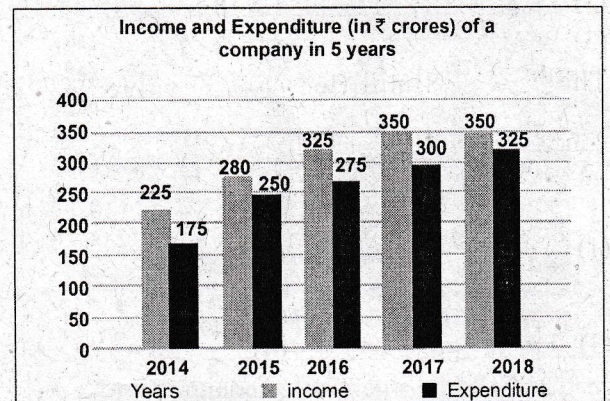
- (1) 22.4
- (2) 24.2
- (3) 24.6
- (4) 20.8

6. The value of

$$\frac{4 \tan^2 30^\circ + \frac{1}{4} \sin^2 90^\circ + \frac{1}{8} \cot^2 60^\circ + \sin^2 30^\circ \cos^2 45^\circ}{\sin 60^\circ \cos 30^\circ - \cos 60^\circ \sin 30^\circ}$$

- (1) 4
- (2) $2\frac{1}{2}$
- (3) $1\frac{3}{4}$
- (4) $3\frac{1}{2}$

7. The compound interest on a certain sum for 3 years at 15% p.a., interest compound yearly, is ₹4167. What is the simple interest on the same sum in $4\frac{4}{5}$ years at the same rate?
- (1) ₹6000
 - (2) ₹4800
 - (3) ₹5760
 - (4) ₹6144
8. The given Bar Graph presents Income and Expenditure of a company for the five years, 2014-2018.



The total Income of the company in 2015, 2017 and 2018 is approximately what percent less than the total Expenditure in the five years?

- (1) 22
- (2) 26
- (3) 24
- (4) 21

9. The price of an article increases by 20% every year. If the difference between the prices at the end of third and fourth years is ₹259.20, then 40% of the price at the end of second year is:

- (1) 484
- (2) 472
- (3) 384
- (4) 432

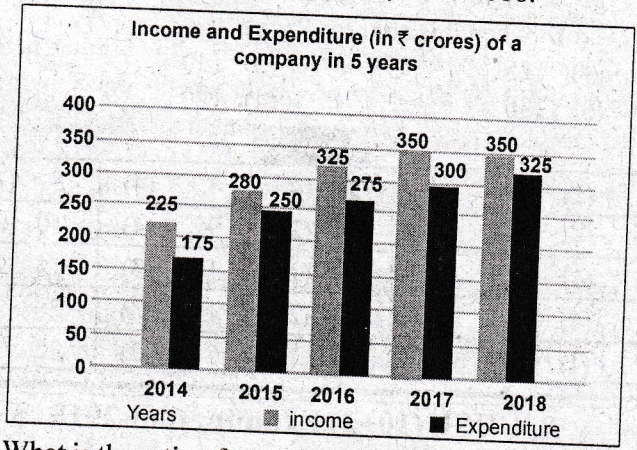
10. In a class of 80 students, the ratio of the urban to the rural is 5 : 3, In a test, the average score of the rural students is 40% more than that of the urban students. If the average score of all the students is 69, then what is the average score of the rural students?

- (1) 76
- (2) 92
- (3) 84
- (4) 80



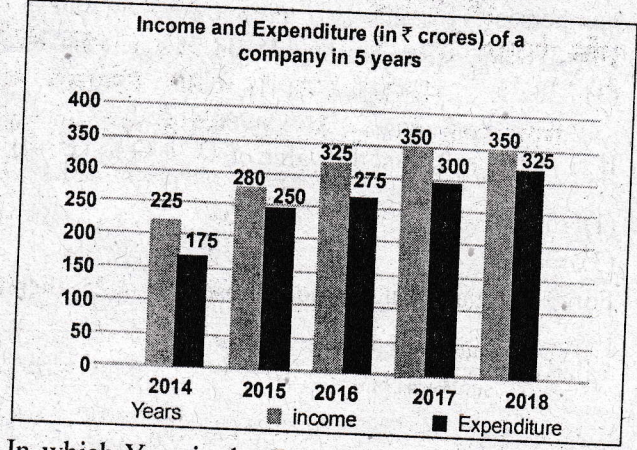
11. Let $\triangle ABC \sim \triangle QPR$ and $\frac{ar(\triangle ABC)}{ar(\triangle PQR)} = \frac{9}{4}$. If $AB = 12$ cm, $BC = 6$ cm and $AC = 9$ cm, then QR is equal to:
 (1) 6 cm (2) 12 cm
 (3) 15 cm (4) 9 cm
12. In $\triangle ABC$, AD is the bisector of $\angle BAC$, meeting BC at D . If $AC = 21$ cm and the length of BD is 2 cm less than DC , then the length of side AB is:
 (1) 15 cm (2) 14 cm
 (3) 10 cm (4) 18 cm
13. 18 men can complete a work in 9 days. after they have worked for 5 days, 6 more men join them. How many days will they take to complete the remaining work?
 (1) 3 (2) $3\frac{1}{2}$
 (3) $2\frac{1}{2}$ (4) 2
14. If a 10 digit number $46789x531y$ is divisible by 72, then the value of $(2x + 5y)$, for the largest value of x is:
 (1) 24 (2) 17
 (3) 28 (4) 14
15. The length of a rectangular park is 20m more than its breadth. If the cost of fencing the part at ₹53 per metre is ₹21200, then what is the area (in m^2) of the park?
 (1) 8925 (2) 9900
 (3) 9901 (4) 8990
16. If $(\frac{1}{1+\cos\theta} - \frac{1}{1-\cos\theta})\cos\theta = 2$, $0^\circ < \theta < 90^\circ$, then the value of $\sin^2\theta + \cot^2\theta + \sec^2\theta$ is:
 (1) 2 (2) $2\frac{1}{2}$
 (3) 1 (4) $3\frac{1}{2}$
17. In a $\triangle ABC$, D and E are two points on sides AB and BC , respectively such that $AD : DB = 2 : 3$ and DE parallel AC . If the area of $\triangle ADE$ is equal to 18 cm^2 , then what is the area of $\triangle ABC$?
 (1) 75 (2) 45
 (3) 40.5 (4) 54
18. A man get a discount of 30% and then 20% on his food bill ₹1250. How much amount does he has to pay?
 (1) ₹800 (2) ₹700
 (3) ₹650 (4) ₹400

19. In a circle with centre O , diameter AB and a Chord CD intersect each other at E , AC and AD are joined. If $\angle BOC = 48^\circ$ and $\angle AOD = 100^\circ$, then what is the measure of $\angle CEB$?
 (1) 78° (2) 76°
 (3) 74° (4) 82°
20. What is the simplified value of $5 \div 10 \text{ of } 10 \times 4 + 4 \div 4 \text{ of } 4 \times 10 - (10 - 4) \div 16 \times 4 = ?$
 (1) 58.2 (2) 1.2
 (3) 25 (4) 21
21. The given Bar Graph presents Income and Expenditure of a company for the five years, 2014-2018.



What is the ratio of total Expenditure to total Income of the company in 2014, 2016 and 2017?
 (1) 6 : 5 (2) 13 : 18
 (3) 15 : 16 (4) 5 : 6

22. The given Bar Graph presents Income and Expenditure of a company for the five years, 2014-2018.



In which Year is the Expenditure more than 40% as compared to the Expenditure in the previous year?
 (1) 2017 (2) 2015
 (3) 2018 (4) 2016



23. Two trains of equal length travelling in opposite direction at 72 km/h & 108 km/h cross each other in 10 sec. In how much time does the first train cross a platform of length 350 m ?
 (1) 30 (2) 26
 (3) 25 (4) 24
24. If $8(x+y)^3 - (x-y)^3 = (x+3y)(Ax^2 + Bxy + Cy^2)$, then find the value of $(A - B - C)$ is:
 (1) 10 (2) 14
 (3) -2 (4) -6
25. An article is sold for Rs. x . If it is sold at $33\frac{1}{3}\%$ of this price, there is a loss of 20%. What is the percentage profit when it is sold for Rs. x ?
 (1) 125 (2) 140
 (3) 130 (4) 120
4. Three articles are bought at ₹200 each. One of them is sold at a loss of 10%. If the other two articles are sold so as to gain 20% on the whole transaction, then what is the gain percent on the two articles?
 (1) 28 (2) 32
 (3) 35 (4) 30
5. ABCD is a cyclic quadrilateral such that its sides AD and BC produced meet at P and sides AB and DC produced meet at Q. If $\angle A = 62^\circ$ and $\angle ABC = 74^\circ$, then the difference between $\angle P$ and $\angle Q$ is:
 (1) 44° (2) 23°
 (3) 32° (4) 38°
6. A can do 40% of a work in 6 days and B can do 30% of the same work in 3 days. They started the work together but B left after 2 days and A continued to work. In how many days was the entire work completed?
 (1) 10 (2) 12
 (3) 9 (4) 15

Answers

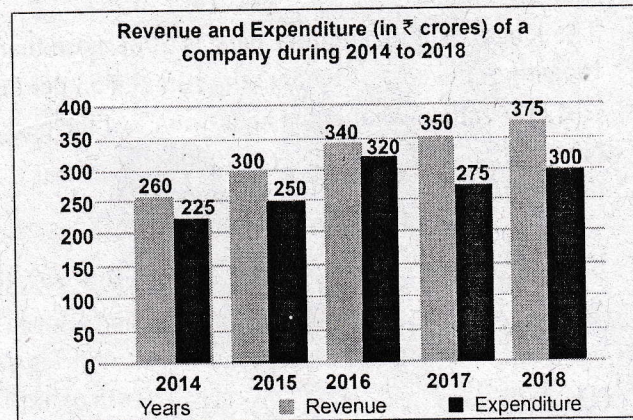
1. (2)	2. (3)	3. (4)	4. (4)	5. (1)
6. (4)	7. (3)	8. (2)	9. (4)	10. (3)
11. (1)	12. (1)	13. (1)	14. (3)	15. (2)
16. (4)	17. (1)	18. (2)	19. (3)	20. (2)
21. (4)	22. (2)	23. (1)	24. (3)	25. (2)

8. CHSL (10+2) Examination-2018

Test Time 10:00 AM - 11:00 AM

Test Date 04/07/2019

1. The average of n numbers is 36. If each of 75% of the numbers is increased by 6 and each of the remaining numbers is decreased by 9, then the new average of the numbers is:
 (1) 37.125 (2) 33.75
 (3) 38.25 (4) 36.25
2. If $x^2 - 6x + 1 = 0$, then the value of $(x^4 + \frac{1}{x^2}) \div (x^2 + 1)$ is:
 (1) 39 (2) 33
 (3) 35 (4) 36
3. For θ being an acute angle, if $\operatorname{cosec} \theta = 1.25$, then the value of $\frac{4 \tan \theta - 5 \cos \theta}{\sec \theta + 4 \cot \theta}$ is equal to:
 (1) $\frac{3}{7}$ (2) $\frac{4}{7}$
 (3) $\frac{1}{4}$ (4) $\frac{1}{2}$
7. The given Bar Graph presents the Revenue and Expenditure (in crores of Rupees) of a company during the five year period, 2014 - 2018.



What is the ratio of the total revenue of the company in 2015 and 2018 to that of its expenditure in 2014 and 2018?

- (1) 5:4 (2) 7:5
 (3) 9:7 (4) 13:10
8. If $x + y + z = 3$ and $xy + yz + zx = -18$, then what is the value of $x^3 + y^3 + z^3 - 3xyz = ?$
 (1) 187 (2) 217
 (3) 191 (4) 189
9. If a 10-digit number $75y97405x2$ is divisible by 72, then the value of $(2x-y)$, for the greatest value of x , is:
 (1) 24 (2) 21
 (3) 12 (4) 18



10. For $0^\circ < \theta < 90^\circ$, if $2 \cos^2 \theta = 3 \sin \theta$, then the value of $(\operatorname{cosec}^2 \theta - \cot^2 \theta + \cos^2 \theta)$ is equal to:

- (1) $1\frac{1}{2}$ (2) $2\frac{3}{4}$
 (3) $1\frac{3}{4}$ (4) $2\frac{1}{4}$

11. Sudha decided to donate 12% of her monthly income to an orphanage. On the day of donation, she changed her decision and donated a sum of ₹4800 which was equal to 80% of what she had decided earlier. What is 27% of her monthly income?

- (1) ₹13959 (2) ₹11934
 (3) ₹14040 (4) ₹13500

12. In $\triangle ABC$, D is a point on BC such that $\angle BAD = \angle ADC$, $\angle BAC = 87^\circ$ and $\angle C = 42^\circ$. What is the measure of $\angle ADB$?

- (1) 94° (2) 68°
 (3) 102° (4) 78°

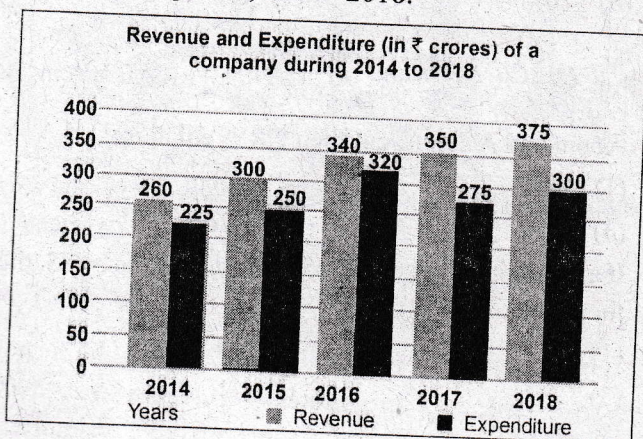
13. For $0^\circ < \theta < 90^\circ$ if $\frac{\sec \theta (1 - \sin \theta)(\sec \theta + \tan \theta)}{(\sec \theta - \tan \theta)^2} = \frac{1+k}{1-k}$ is equal to:

- (1) $\operatorname{cosec} \theta$ (2) $\cos \theta$
 (3) $\sec \theta$ (4) $\sin \theta$

14. Incomes of A and B are in the ratio 5:3 and their expenditures are in the ratio 9:5. If income of A is twice the expenditure of B, then what is the ratio of savings of A and B?

- (1) 2 : 3 (2) 1 : 1
 (3) 3 : 2 (4) 3 : 4

15. The given Bar Graph presents the Revenue and Expenditure (in crores of Rupees) of a company during the five year period, 2014 - 2018.



The expenditure of the company in 2017 is what percentage less than the average revenue (per year) in 2014, 2015 and 2016?

- (1) $11\frac{2}{9}$ (2) $11\frac{1}{9}$
 (3) $8\frac{1}{3}$ (4) $12\frac{1}{3}$

16. The parallel sides of a trapezium are 20 cm and 10 cm and its non-parallel sides are equal to each other. If its area is 180 cm^2 , then what is the length (in cm) of each non-parallel side?

- (1) 11 (2) 13
 (3) 12 (4) 15

17. In a circle with centre O, AB is a diameter. Points C, D and E are on the circle on one side of AB such that ABEDC is a pentagon. The sum of angles ACD and DEB is:

- (1) 240° (2) 225°
 (3) 270° (4) 180°

18. $\triangle ABC$ is a triangle, where $\angle B$ is obtuse. AD is perpendicular on CB produced at D. If AB = 8cm, BC = 7cm and BD = 4cm, then AC is equal to:

- (1) 14cm (2) 13cm
 (3) 15cm x (4) 12cm

19. A shopkeeper marks his goods at 25% above the cost price. He sells three-fourth of the goods at the marked price and the remaining at 40% discount on the marked price. His gain loss percent is:

- (1) Loss, 8.75% (2) Loss, 12.5%
 (3) Gain 10.5% (4) Gain 12.5%

20. A sum invested at 8% p.a. amounts to ₹20280 at the end of one year, when the interest is compounded half yearly.

What will be the interest on the same sum for $4\frac{3}{5}$ years at

double the earlier rate of interest?

- (1) ₹13500 (2) ₹13800
 (3) ₹14200 (4) ₹14500

21. The simplified value of

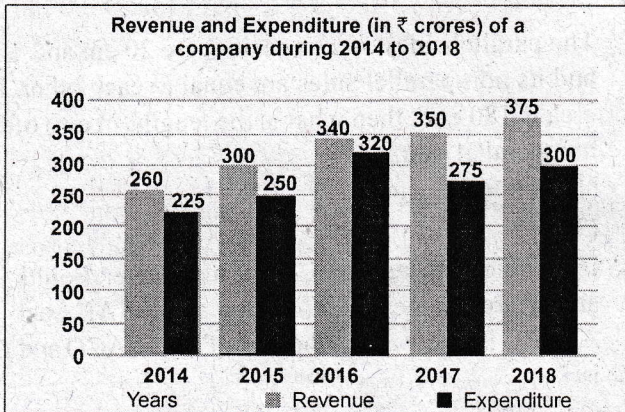
$$3 \times 6 \div 4 \text{ of } 6 - 6 \div 2 \times (4 - 6) + 4 - 2 \times 3 \div 6 \text{ of } \frac{1}{3} \text{ of } 3 \text{ is:}$$

- (1) $1\frac{3}{4}$ (2) $7\frac{3}{4}$
 (3) $13\frac{3}{4}$ (4) $8\frac{1}{3}$



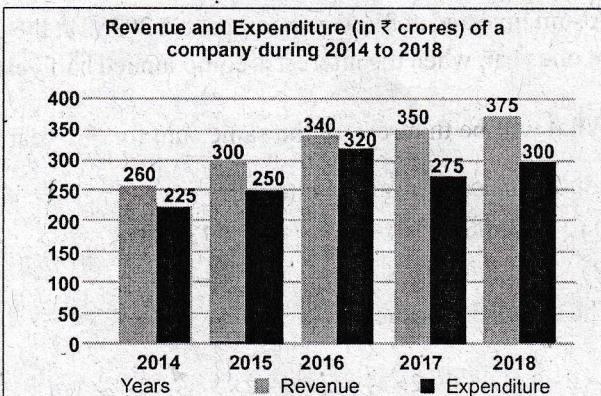
22. If $8(a+b)^3 + (a-b)^3 = (3a+b)(Aa^2 + Bab + cb^2)$, then what is the value of $(A+B-C)$?
- (1) 2 (2) 4
(3) 10 (4) 11

23. The given Bar Graph presents the Revenue and Expenditure (in crores of Rupees) of a company during the five year period, 2014 - 2018.



The total expenditure of the company from 2016 to 2018 is what percentage (nearest to an integer) of the total revenue for the five year period?

- (1) 56 (2) 55
(3) 54 (4) 53
24. A train covers a certain distance in 45 minutes. If its speed is reduced by 5 km/h, it takes 3 minutes more to cover the same distance. The distance (in km) is:
- (1) 64 (2) 60
(3) 54 (4) 80
25. The given Bar Graph presents the Revenue and Expenditure (in crores of Rupees) of a company during the five year period, 2014 - 2018.



In which year the percentage increase in the revenue as compared to that in its preceding year is between 5% and 8%?

- (1) 2015 (2) 2017
(3) 2016 (4) 2018

Answers

1. (3)	2. (2)	3. (4)	4. (3)	5. (3)
6. (2)	7. (3)	8. (4)	9. (3)	10. (3)
11. (4)	12. (4)	13. (4)	14. (2)	15. (3)
16. (2)	17. (3)	18. (2)	19. (4)	20. (2)
21. (2)	22. (1)	23. (2)	24. (2)	25. (4)

9. CHSL (10+2) Examination-2018

Test Time 1:00 PM - 2:00 PM

Test Date 04/07/2019

- In a $\triangle ABC$, the bisectors of $\angle B$ and $\angle C$ meet at point O within the triangle. If $\angle A$ is given, then which among the given options is true?
 - $\angle BOC = 180^\circ - (\angle A/2)$
 - $\angle BOC = 90^\circ - (\angle A/2)$
 - $\angle BOC = 180^\circ - (\angle A)$
 - $\angle BOC = 90^\circ + (\angle A/2)$
- If $\tan x = \cot(65^\circ + 9x)$, then what is the value of x ?
 - 2.5°
 - 1.5°
 - 1.0°
 - 2.0°
- 10 years ago, the average age of a family of five members was 38 years. Now, two new members join, whose age difference is 8 years. If the present average age of the family is the same as it was 10 years ago, what is the age (in years) of the new younger member?
 - 15
 - 10
 - 9
 - 17
- A man bought 2 articles for Rs.2650 each. He sold one article at 10% profit and another at 5% profit. The total profit percentage he earned is :
 - 7.5%
 - 8.5%
 - 10%
 - 8%
- Let $\triangle ABC \sim \triangle PQR$ and $\frac{ar(\triangle ABC)}{ar(\triangle PQR)} = \frac{9}{4}$. If $AB = 9$ cm, $BC = 6$ cm and $AC = 12$ cm then QR is equal to:
 - 8cm
 - 16cm
 - 9cm
 - 12cm
- If a 10-digit number $1220x558y2$ is divisible by 88, then the value of $(x + y)$ is:
 - 9
 - 15
 - 7
 - 11



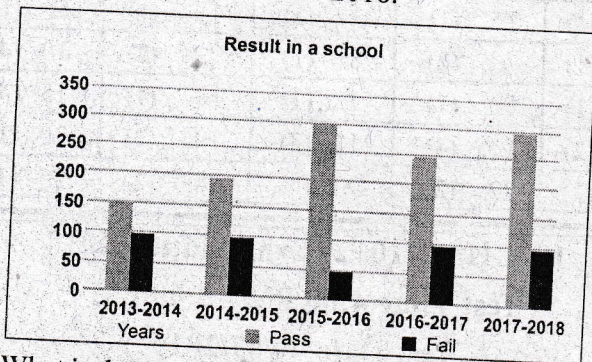
7. ₹60000 invested at a certain rate for a certain even number of years, compounded annually, grows to ₹63,654. To how much amount would it grow if it is invested at the same rate for the half the period?

- (1) ₹61675 (2) ₹61800
(3) ₹61809 (4) ₹61827

8. The simplified value of $5 \text{ of } 8 - 6 + [(27 - 3) \div 6 - 4]$ is:

- (1) 114 (2) 124
(3) 120 (4) 116

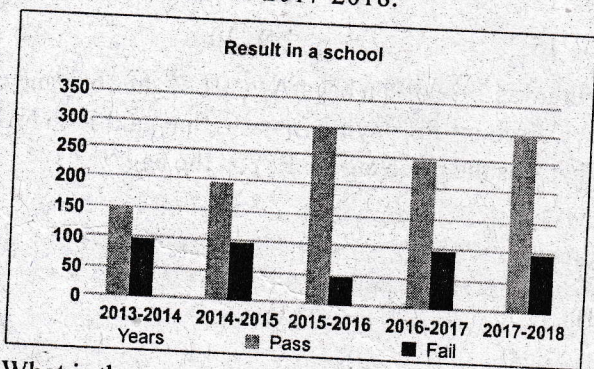
9. The given Bar graph presents the results in terms of number of students in a school for the five academic years, 2013-2014 to 2017-2018.



What is the approximate percentage of students passed during give academic years (correct to the nearest integer)?

- (1) 72% (2) 73%
(3) 78% (4) 79%

10. The given Bar graph presents the results in terms of number of students in a school for the five academic years, 2013-2014 to 2017-2018.



What is the average of failed students in five academic years?

- (1) 50 (2) 100
(3) 75 (4) 90

11. A, B and C can complete of piece of work in 10,20 and 60 days respectively. Working together, they can complete the same work in how many days?

- (1) 6 (2) 10
(3) 5 (4) 8

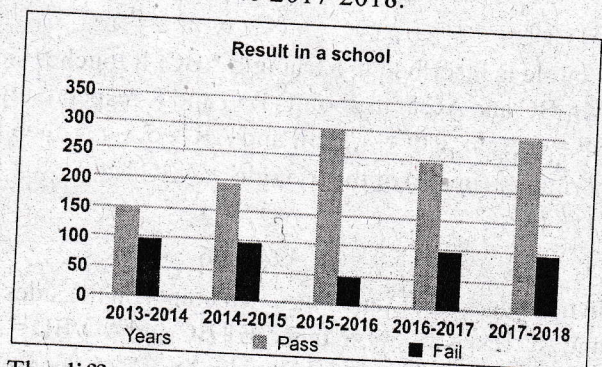
12. If $x^4 + x^{-4} = 2207$, ($x > 0$) then the value of $x + x^{-1}$ is:

- (1) 7 (2) 9
(3) 19 (4) 11

13. A number is increased by 30%, then decreased by 25%, and the further increased by 25%. what is the net increase/decrease percent in the number (correct to the nearest integer)

- (1) 22% increase (2) 21% decrease
(3) 22% decrease (4) 21% increase

14. The given Bar graph presents the results in terms of number of students in a school for the five academic years, 2013-2014 to 2017-2018.



The difference between the number of students passed and those who failed is the highest in which academic year?

- (1) 2015-2016 (2) 2016-2017
(3) 2017-2018 (4) 2014-2015

15. If $x - \frac{1}{x} = 10$, then $x^3 - \frac{1}{x^3}$ is equal to:

- (1) 1000 (2) 970
(3) 1100 (4) 1030

16. There was 29% off on bags. A lady bought a bag and got 12% discount for paying in cash. She paid Rs. 312.40. What is the price tag (in Rs) on the bag?

- (1) 625 (2) 500
(3) 450 (4) 600

17. Two circle of radii 5 cm and 8 cm intersect at the points A and B. If $AB = 8$ cm and the distance between the centres of two circles is x cm, then the value of x (to the closet integer) is:

- (1) 8 (2) 9
(3) 11 (4) 10



18. If $\cos \theta = \frac{2p}{p^2+1}$, then \sin is equal to:

- (1) $\frac{2p}{p^2-1}$ (2) $\frac{p^2+1}{p^2-1}$
 (3) $\frac{p^2-1}{p^2+1}$ (4) $\frac{2p}{p^2+1}$

19. What is the area of a rhombus (in cm^2) whose side is 10 cm and the smaller diagonal is 12 cm ?

- (1) 50 (2) 96
 (3) 192 (4) 120

20. If $(x-7)^3 + (x-8)^3 + (x+6)^3 = 3(x-7)(x-8)(x+6)$, then what is the value of x ?

- (1) 3 (2) 8
 (3) 10 (4) 6

21. A circle is inscribed in a triangle ABC. It touches sides AB, BC and AC at the points P, Q and R respectively. If $BP = 6.5$ cm, $CQ = 4.5$ cm and $AR = 5.5$ cm, then the perimeter (in cm) of the triangle ΔABC is:

- (1) 16.5 (2) 22
 (3) 33 (4) 66

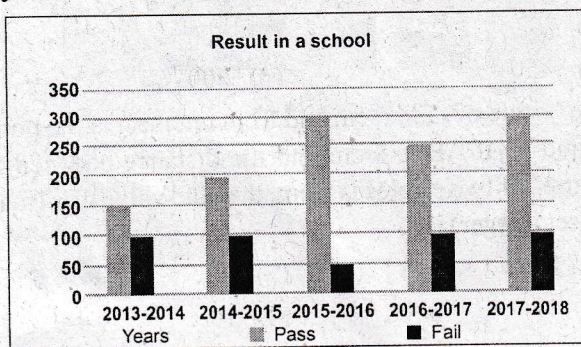
22. In triangle ABC, D and E are two points on the sides AB and AC respectively so that $DE \parallel BC$ and $AD/BD = 3/4$. The ratio of the area of trapezium DECB to the area of ΔABC is:

- (1) 49 : 33 (2) 40 : 49
 (3) 33 : 49 (4) 49 : 40

23. A train covers 360 km at a uniform speed. If the speed had been 10 km/h more, it would have taken 3 hours less for the same journey. What is the speed of the train (in km/h)?

- (1) 25 (2) 40
 (3) 50 (4) 30

24. The given Bar graph presents the results in terms of number of students in a school for the five academic years, 2013-2014 to 2017-2018.



In which year the percentage increase in the total number of students is the highest in comparison to the previous academic year?

- (1) 2016-2017
 (2) 2014-2015
 (3) 2015-2014
 (4) 2017-2018

25. If $a^2 + b^2 = 88$ and $ab = 6$, ($a > 0$, $b > 0$) then what is the value of $(a^3 + b^3)$?

- (1) 820 (2) 1180
 (3) 1000 (4) 980

Answers

1. (4)	2. (1)	3. (3)	4. (1)	5. (1)
6. (1)	7. (2)	8. (1)	9. (2)	10. (4)
11. (1)	12. (1)	13. (1)	14. (1)	15. (4)
16. (2)	17. (4)	18. (3)	19. (2)	20. (1)
21. (3)	22. (2)	23. (4)	24. (2)	25. (1)

10. CHSL (10+2) Examination-2018

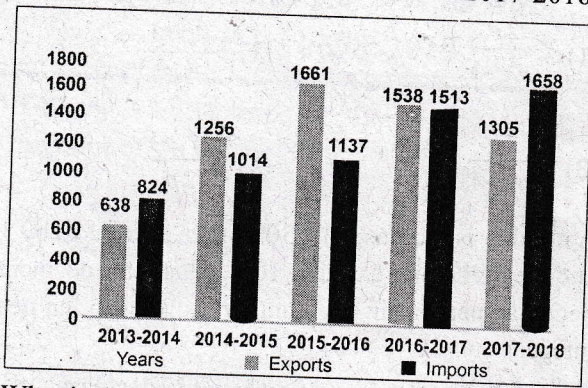
Test Time 4:00 PM - 5:00 PM

Test Date 04/07/2019

- 9 years ago, the average age of a family of five members was 33 years. Now, three new members join whose ages are in ascending order with consecutive gaps of 8 years. If the present average age of the family is the same as it was 9 years ago, what is the age (in years) of the youngest new member?
 (1) 17 (2) 9
 (3) 15 (4) 10
- There was 29% off on bags. A lady bought a bag and got 13% discount for paying in cash. She paid Rs.671.70. What was the price tag (in Rs) on the bag?
 (1) 750
 (2) 800
 (3) 1000
 (4) 925
- A train covers 60 km at a uniform speed. If the speed had been 8 km/h more, it would have taken 10 hours less for the same journey. What is the speed of the train (in km/h)?
 (1) 4 (2) 5
 (3) 3 (4) 2.5



4. The given Bar Graph presents the Imports and Exports of an item (in tonnes) manufactured by a company for the five financial years, 2013-2014 to 2017-2018.



What is the ratio of total Exports to total Imports during the five financial years?

- (1) 4175 : 4011 (2) 4011 : 4175
 (3) 3073 : 3199 (4) 3199 : 3073

5. A, B and C can complete a piece of work in 4, 28 and 56 days respectively. working together, they can complete the same work in how many days?

- (1) $5\frac{5}{17}$ (2) $3\frac{5}{17}$
 (3) $5\frac{1}{17}$ (4) $3\frac{1}{17}$

6. In triangle ABC, D and E are two points on the sides AB and AC respectively so that $DE \parallel BC$ and $AD/BD = 3/4$. The ratio of the area of $\triangle ABC$ to the area of trapezium DECB is:

- (1) 40 : 49 (2) 49 : 40
 (3) 49 : 33 (4) 33 : 49

7. If $(3x - 7)^3 + (3x - 8)^3 + (3x + 6)^3 = 3(3x - 7) + (3x - 8) + (3x + 6)$, then what is the value of x?

- (1) 3 (2) 2
 (3) 4 (4) 1

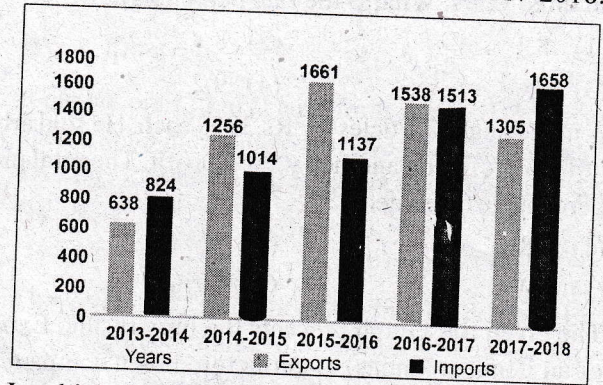
8. A circle is inscribed in a triangle ABC. It touches sides AB, BC and AC at the points P, Q and R respectively. If $BP = 8.5$ cm, $CQ = 6.5$ cm and $AR = 4.5$ cm, then the perimeter (in cm) of the $\triangle ABC$ is:

- (1) 49.5 (2) 39
 (3) 33 (4) 35

9. If $a^2 + b^2 = 99$ and $ab = 11$, ($a > 0$, $b > 0$) then the value of $(a^3 + b^3)$ is:

- (1) 968 (2) 1250
 (3) 1080 (4) 1100

10. The given Bar Graph presents the Imports and Exports of an item (in tonnes) manufactured by a company for the five financial years, 2013-2014 to 2017-2018.



In which financial year the absolute difference between the Exports and the Imports is the highest?

- (1) 2015 - 2016 (2) 2016 - 2017
 (3) 2017 - 2018 (4) 2014 - 2015

11. Two circles of radii 7 cm and 9 cm intersect at the points A and B. If $AB = 6$ cm, and the distance between the centres is x cm, then the value of x (to the closest integer) is:

- (1) 10 (2) 15
 (3) 12 (4) 14

12. If $x^4 + x^{-4} = 1442$, ($x > 0$) then the value of $x + x^{-1}$ is:

- (1) 15 (2) 6
 (3) 8 (4) 7

13. A man gets a discount of 30% and then 20% on his food bill of Rs.1,500. How much discount, in rupees, did he get?

- (1) 500 (2) 660
 (3) 360 (4) 700

14. If $x + \frac{1}{x} = 10$, then $x^3 + \frac{1}{x^3}$ is equal to:

- (1) 1030 (2) 1000
 (3) 1100 (4) 970

15. If $2 \sin^2 \theta + 5 \cos \theta - 4 = 0$, $0^\circ < \theta < 90^\circ$, then the value of $\tan \theta + \sin \theta$ is:

- (1) $\frac{2}{\sqrt{3}}$ (2) $\frac{3\sqrt{3}}{2}$
 (3) $\frac{\sqrt{3}}{3}$ (4) $\frac{\sqrt{3}}{2}$



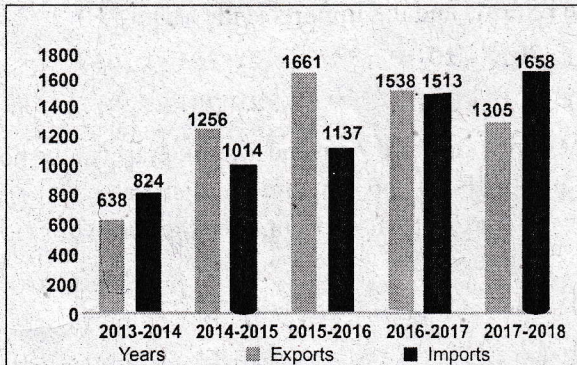
16. A certain amount invested at a certain rate, compounded annually, grows to an amount in five years, which is a factor of 1.1881 more than to what it would have grown in three years. What is the rate percentage?

- (1) 8.1 (2) 8
(3) 9 (4) 9.2

17. A man bought 2 articles for Rs.3050 each. He sold article at 10% profit and another at 20% profit. The total profit percentage he earned is:

- (1) 18% (2) 15%
(3) 20% (4) 10%

18. The given Bar Graph presents the Imports and Exports of an item (in tonnes) manufactured by a company for the five financial years, 2013-2014 to 2017-2018.



In which financial year the percentage increase in Imports and Exports taken together is the highest is the highest in comparison to its previous financial year?

- (1) 2014 - 2015 (2) 2017 - 2018
(3) 2015 - 2016 (4) 2016 - 2017

19. Three numbers are in the ratio $1/2 : 2/3 : 3/4$. The difference between the greatest and the smallest number is 27. The smallest number is:

- (1) 72 (2) 54
(3) 81 (4) 40

20. Let $\Delta ABC \sim \Delta QPR$ and $\frac{ar(ABC)}{ar(APQR)} = \frac{1}{16}$. If $AB = 12$ cm,

$BC = 6$ cm and $AC = 9$ cm then PR is equal to:

- (1) 24cm (2) 9cm
(3) 8cm (4) 12cm

21. What is the area of a rhombus (in cm^2) whose side is 13 cm and the smaller diagonal is 10 cm?

- (1) 96 (2) 120
(3) 192 (4) 50

22. If $\cos \theta = \frac{2p}{p^2+1}$, ($p \neq 0$) then \sin is equal to:

- (1) $\frac{2p}{p^2-1}$ (2) $\frac{p^2+1}{p^2-1}$

- (3) $\frac{2p}{p^2+1}$ (4) $\frac{p^2-1}{2p}$

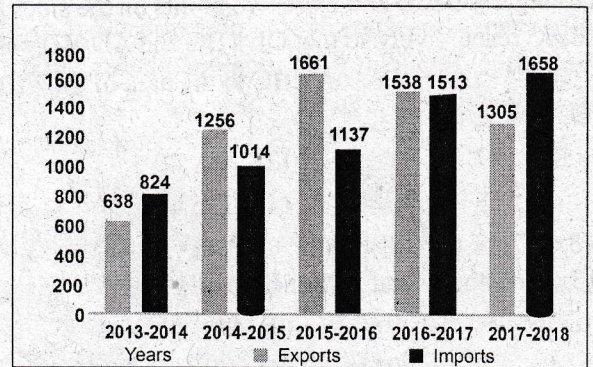
23. A number is increased by 30%, then decreased by 30%, and the further increased by 10%. what is the net increase/decrease percent in the number (correct to the nearest integer)

- (1) 19% increase (2) 18% decrease
(3) 19% decrease (4) 18% increase

24. In a ΔABC , the bisectors of $\angle B$ and $\angle C$ meet at point O within the triangle. If $\angle BOC$ is given, then which among the given options is true?

- (1) $\angle A = 180^\circ + \angle BOC$
(2) $\angle A = 90^\circ + \angle BOC$
(3) $\angle A = 2(90^\circ - \angle BOC)$
(4) $\angle A = 2(\angle BOC - 90^\circ)$

25. The given Bar Graph presents the Imports and Exports of an item (in tonnes) manufactured by a company for the five financial years, 2013-2014 to 2017-2018.



What is the average of Import (in tonnes) during the five financial years?

- (1) 1335.9 (2) 1229.5
(3) 1229.2 (4) 1552.4

Answers

1. (4)	2. (3)	3. (1)	4. (4)	5. (2)
6. (2)	7. (4)	8. (2)	9. (1)	10. (1)
11. (2)	12. (2)	13. (2)	14. (4)	15. (2)
16. (3)	17. (2)	18. (1)	19. (2)	20. (1)
21. (2)	22. (4)	23. (2)	24. (4)	25. (3)



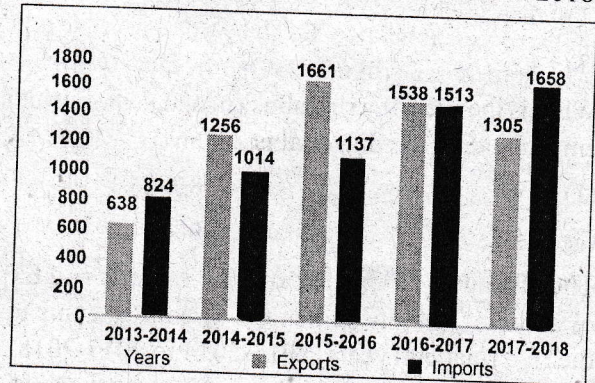
11. CHSL (10+2) Examination-2018

Test Time 10:00 AM - 11:00 AM

Test Date 05/07/2019

- If $12 \cot^2 \theta - 31 \operatorname{cosec} \theta + 32 = 0$, $0^\circ < \theta < 90^\circ$, then the value of $\sin \theta$ will be:
 - $\frac{2}{3}, \frac{1}{4}$
 - $\frac{4}{5}, \frac{3}{4}$
 - $\frac{5}{4}, \frac{4}{3}$
 - $\frac{1}{3}, \frac{3}{2}$
- A, B and C can complete a piece of work in 5, 20 and 60 days respectively. Working together, they can complete the same work in how many days?
 - $5\frac{3}{4}$
 - $3\frac{3}{4}$
 - $3\frac{1}{4}$
 - $5\frac{1}{4}$
- A man bought 2 articles for ₹3050 each. He sold one article at 10% loss and another at 20% profit. The total profit/loss percentage he earned is:
 - 10% profit
 - 5% loss
 - 10% loss
 - 5% profit
- A number is decreased by 30%, then increased by 30%, then further increased by 30%. What is the net increase/decrease percent in the number (correct to the nearest integer)?
 - 19% increase
 - 18% decrease
 - 19% decrease
 - 18% increase
- 9 years ago, the average age of a family of five members was 33 years. Now, three new members join whose ages are in ascending order with consecutive gaps of 8 years. If the present average age of the family is the same as it was 9 years ago, what is the age (in years) of the youngest new member?
 - 26
 - 29
 - 35
 - 17
- In triangle ABC, D and E are two points on the sides AB and AC respectively so that $DE \parallel BC$ and $AD/BD = 3/4$. The ratio of the area of ΔABC to the area of trapezium DECB is:
 - 96 : 121
 - 121 : 36
 - 121 : 96
 - 36 : 121
- The simplified value of $15 \div 8 + 6 \div [(27 - 3) \div 6 + 4]$ is:
 - 128
 - 130
 - 134
 - 136

- If $x^4 + x^{-4} = 1442$, ($x > 0$) then the value of $x + x^{-1}$ is:
 - ${}^4\sqrt{10}$
 - 15
 - ${}^2\sqrt{10}$
 - ${}^3\sqrt{10}$
- A car covers 25 km at a uniform speed. If the speed had been 8 km/h more, it would have taken 10 hours less for the same journey. What is the speed of the car (in km/h)?
 - 4
 - 2
 - 2.5
 - 3
- The given Bar Graph presents the Imports and Exports of an item (in tonnes) manufactured by a company for the five financial years, 2013-2014 to 2017-2018.

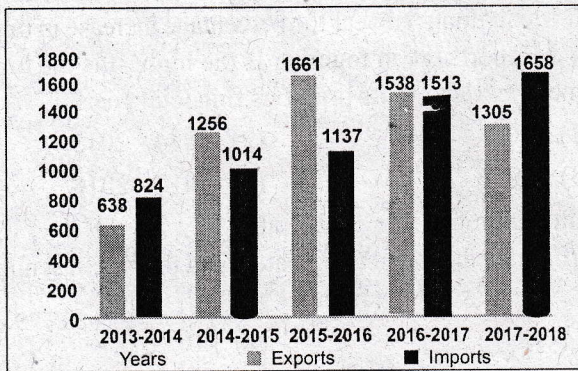


In which financial year the percentage increase in Imports and Exports taken together is the highest is the highest in comparison to its previous financial year?

- 2015 - 2016
 - 2014 - 2015
 - 2016 - 2017
 - 2017 - 2018
- Three numbers are in the ratio $1/2 : 2/3 : 3/4$. The difference between the greatest and the smallest number is 27. The smallest number is:
 - 54
 - 40
 - 81
 - 69
 - A circle is inscribed in a triangle ABC. It touches sides AB, BC and AC at the points P, Q and R respectively. If $BP = 9$ cm, $CQ = 10$ cm and $AR = 11$ cm, then the perimeter (in cm) of the ΔABC is:
 - 57.5
 - 75
 - 72.5
 - 60
 - Two circles of radii 7 cm and 9 cm intersect at the points A and B. If $AB = 10$ cm and the distance between the centres of the circle is x cm, then the value of x is:
 - $2(\sqrt{6} + \sqrt{7})$
 - $(\sqrt{6} + \sqrt{7})$
 - $2(\sqrt{6} + \sqrt{14})$
 - $(\sqrt{6} + \sqrt{14})$

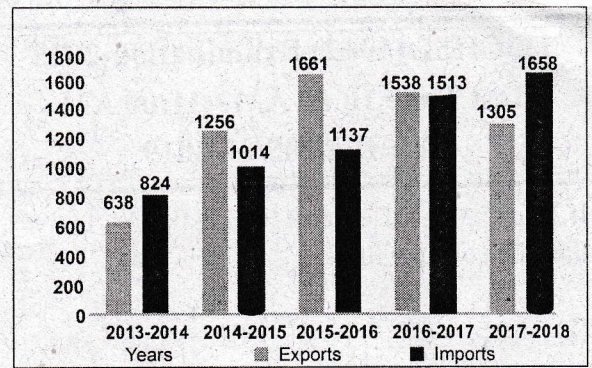


14. If $a^2 + b^2 = 135$ and $ab = 11$, ($a > 0, b > 0$) then the value of $(a^3 - b^3)$ is:
- (1) 1680 (2) 1350
(3) 1600 (4) 1562
15. If $(2x - 7)^3 + (2x - 8)^3 + (2x + 6)^3 = 3(2x - 7) + (2x - 8) + (2x + 6)$, then what is the value of x ?
- (1) 2 (2) 3
(3) 4 (4) 1
16. A certain amount invested at a certain rate, compounded annually, grows to an amount in five years, which is a factor of 1.191016 more than to what it would have grown in three years. What is the rate percentage?
- (1) 6 (2) 8
(3) 4 (4) 5
17. What is the area of a rhombus (in cm^2) whose side is 20 cm and one of the diagonal is 24 cm ?
- (1) 392 (2) 384
(3) 350 (4) 396
18. The given Bar Graph presents the Imports and Exports of an item (in tonnes) manufactured by a company for the five financial years, 2013-2014 to 2017-2018.



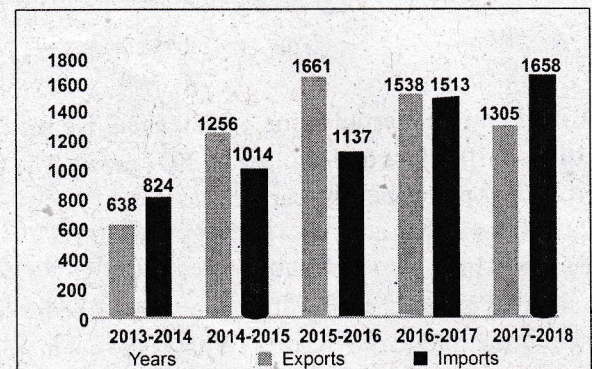
What is the average of Export (in tonnes) during the five financial years

- (1) 1025.9 (2) 1279.5
(3) 1552.4 (4) 1279.6
19. There was 25% off on bags. A lady bought a bag and got 20% discount for paying in cash. She paid ₹480. What was the price tag (₹Rs) on the bag?
- (1) 800 (2) 950
(3) 750 (4) 825
20. The given Bar Graph presents the Imports and Exports of an item (in tonnes) manufactured by a company for the five financial years, 2013-2014 to 2017-2018.



What is the ratio of total Imports to total Exports during the five financial years?

- (1) 3199 : 3073 (2) 4175 : 4011
(3) 3073 : 3199 (4) 4011 : 4175
21. The given Bar Graph presents the Imports and Exports of an item (in tonnes) manufactured by a company for the five financial years, 2013-2014 to 2017-2018.



In Which financial year, total of Exports and Imports is the highest?

- (1) 2015 - 2016 (2) 2014 - 2015
(3) 2017 - 2018 (4) 2016 - 2017
22. If $\cos \theta = \frac{2p}{p^2 + 1}$, ($p \neq \pm 1$) then \sin is equal to:

- (1) $\frac{2p}{p^2 + 1}$ (2) $\frac{p^2 + 1}{p^2 - 1}$
(3) $\frac{2p}{p^2 - 1}$ (4) $\frac{p^2 - 1}{2p}$

23. In a $\triangle ABC$, the bisectors of $\angle B$ and $\angle C$ meet at point O within the triangle. If $\angle BOC = 148^\circ$, then the measure of $\angle A$ is:

- (1) 58° (2) 116°
(3) 87° (4) 29°



24. If $a^2 + b^2 + c^2 + d^2$ is divisible by 88, then the value of $(5x+5y)$ is:
- (1) 55 (2) 45
(3) 25 (4) 20

25. If $2\sin^2\theta + 5\cos\theta - 4 = 0, 0^\circ < \theta < 90^\circ$, then the value of $\cot\theta + \operatorname{cosec}\theta$ is:

- (1) $\frac{\sqrt{3}}{2}$
(2) $\frac{2}{\sqrt{3}}$
(3) $\sqrt{3}$
(4) $\frac{3\sqrt{3}}{2}$

Answers

1. (2)	2. (2)	3. (4)	4. (4)	5. (1)
6. (3)	7. (3)	8. (3)	9. (2)	10. (3)
11. (4)	12. (4)	13. (3)	14. (4)	15. (2)
16. (1)	17. (2)	18. (4)	19. (1)	20. (3)
21. (4)	22. (2)	23. (2)	24. (4)	25. (3)

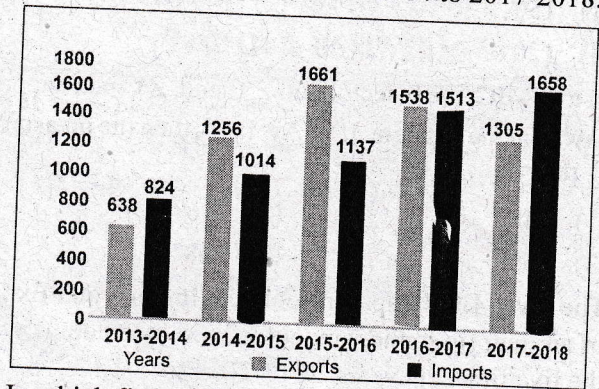
12. CHSL (10+2) Examination-2018

Test Time 1:00 PM - 2:00 PM

Test Date 05/07/2019.

1. Two numbers are in the ratio 7 : 5. On diminishing each of them by 40, the ratio becomes 27 : 17. The difference between the numbers is:
- (1) 75 (2) 40
(3) 25 (4) 50
2. If $\cos x = \frac{-1}{2}$ and $\pi < x < \frac{3\pi}{2}$, then the value of $4\tan^2 x + 3\operatorname{cosec}^2 x$ is:
- (1) 16 (2) 8
(3) 4 (4) 10
3. A person purchased a vehicle for ₹5,90,828 and sold it for ₹6,52,920. What is the profit percent he earned on this vehicle (correct to two decimal places)?
- (1) 10.51%
(2) 9.55%
(3) 9.51%
(4) 11.55%

4. The given Bar Graph presents the Imports and Exports of an item (in tonnes) manufactured by a company for the five financial years, 2013-2014 to 2017-2018.



In which financial year the percentage increase in total of Exports and Imports is the highest in comparison to its previous financial year?

- (1) 2015-2016 (2) 2017-2018
(3) 2014-2015 (4) 2016-2017

5. A, B and C can complete a piece of work in 4, 20 and 60 days respectively. Working together, they can complete the same work in how many days?

- (1) $5\frac{3}{19}$ (2) $3\frac{1}{19}$
(3) $5\frac{1}{19}$ (4) $3\frac{3}{19}$

6. A circle is inscribed in a triangle ABC. It touches sides AB, BC and AC at the points P, Q and R respectively. If $BP = 5$ cm, $CQ = 7$ cm and $AR = 6$ cm, then the perimeter (in cm) of the ΔABC is:

- (1) 36 (2) 35
(3) 37.5 (4) 37.25

7. In triangle ABC, the length of BC is less than twice the length of AB by 2 cm. The length of AC exceeds the length of AB by 10 cm. The perimeter is 32 cm. The length (in cm) of the smallest side of The triangle is:

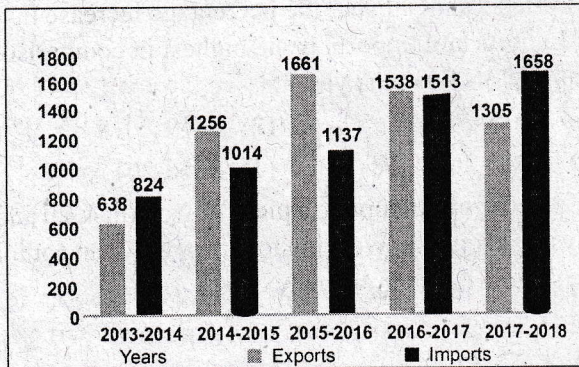
- (1) 4 (2) 10
(3) 8 (4) 6

8. If $6(\sec^2 59^\circ - \cot^2 31^\circ) + \frac{2}{3}\sin 90^\circ - 3\tan^2 56^\circ + \tan^2 34^\circ = \frac{y}{3}$, then the value of y is:

- (1) $\frac{2}{3}$ (2) $-\frac{2}{3}$
(3) 2 (4) -2

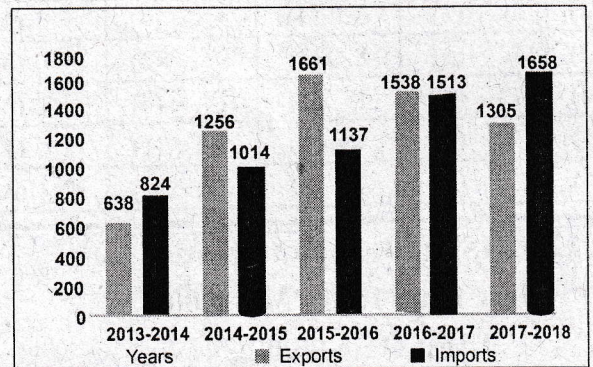


9. The ratio between the speeds of two trains is 5 : 7. If the first train covers 300 km in 3 hours, then the speed I in km/h of the second train is:
- (1) 150 (2) 140
(3) 120 (4) 100
10. In a ΔABC , the bisectors of $\angle B$ and $\angle C$ meet at point O within the triangle. If $\angle A = 116^\circ$, then the measure of $\angle BOC$ is :
- (1) 74° (2) 116°
(3) 85° (4) 148°
11. The given Bar Graph presents the Imports and Exports of an item (in tonnes) manufactured by a company for the five financial years. 2013-2014 to 2017-2018.



What is the ratio of total Imports to total Exports during 2013-2014, 2015-2016 and 2017-2018?

- (1) 3604 : 3073 (2) 4011 : 4175
(3) 3619 : 3604 (4) 4175 : 4011
12. If $x = \sqrt{3} - \sqrt{2}$ then the value of $x^3 - x^{-3}$ is:
- (1) $22\sqrt{3}$ (2) $-22\sqrt{2}$
(3) $22\sqrt{2}$ (4) $-22\sqrt{3}$
13. If $5^{\sqrt{x}} + 12^{\sqrt{x}} = 13^{\sqrt{x}}$ then the value of x is:
- (1) 2 (2) 8
(3) 1 (4) 4
14. If $\sec\theta = 4x$ and $\tan\theta = \frac{4}{x}$, ($x \neq 0$) then the value of $8(x^2 - \frac{1}{x^2})$ is:
- (1) $\frac{1}{16}$ (2) $\frac{1}{4}$
(3) $\frac{1}{2}$ (4) $\frac{1}{8}$
15. A man bought 2 articles for ₹4158 each. He sold one article at 15% loss. Then at what percent profit the other article should be sold so that no profit loss percentage is earned.
- (1) 15% (2) 10%
(3) 12% (4) 18%
16. The simplified value of $1\frac{1}{7} \div \{ \frac{6}{7} - (\frac{1}{7} \div \frac{1}{5}) \}$ is :
- (1) $\frac{13}{64}$ (2) $\frac{13}{16}$
(3) $\frac{13}{8}$ (4) $\frac{13}{7}$
17. The given Bar Graph presents the Imports and Exports of an item (in tonnes) manufactured by a company for the five financial years. 2013-2014 to 2017-2018.



What is the average of total Import and Export (In tonnes) during the five financial year?

- (1) 2279.5 (2) 2508.8
(3) 2552.4 (4) 2325.9
18. A number is increased by 30%, then decreased by 30%, then further decreased by 30%. What is the net increase/decrease percent in the number (correct to the nearest integer)?
- (1) 40% increase (2) 36% decrease
(3) 36% increase (4) 40% decrease
19. The average age of four brothers is 15 years. If their father is included, the average is increased by 5 years. The age of the father (in years) is :
- (1) 35 (2) 40
(3) 38 (4) 36
20. If $(2x+7)^3 + (2x+8)^3 + (2x+3)^3 = 3(2x+7)(2x+8)(2x+3)$, then what is the value of x ?
- (1) -2 (2) 3
(3) 2 (4) -3

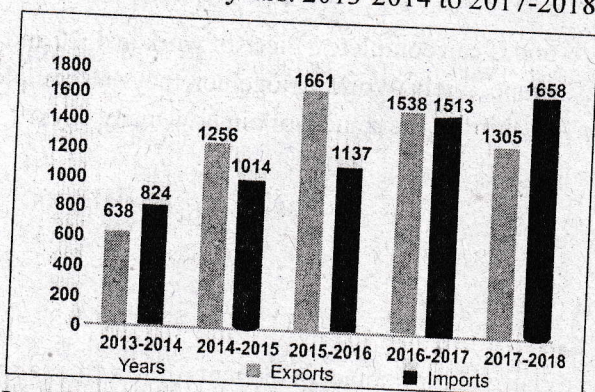


13. CHSL (10+2) Examination-2018

Test Time 4:00 PM - 5:00 PM

Test Date 05/07/2019

21. There was 25% off on shirt. A lady bought that shirt and got an additional 20% discount for paying in cash and further 10% discount for being a loyal customer. She paid ₹324. What was the price tag (in ₹) on the shirt?
- (1) 650 (2) 725
(3) 600 (4) 750
22. The chord of the contact of tangents drawn from a point on the circle $x^2 + y^2 = a^2$ to the circle $x^2 + y^2 = b^2$ touches the circle $x^2 + y^2 = c^2$ such that $b^m = a^n c^p$. where $m, n, p \in \mathbb{N}$ and m, n, p are prime to each other, then the value of $m + n + p - 3$ is:
- (1) 0 (2) 2
(3) -1 (4) 1
23. The given Bar Graph presents the Imports and Exports of an item (in tonnes) manufactured by a company for the five financial years. 2013-2014 to 2017-2018.



- In which financial year the total of the Exports and Imports is the lowest?
- (1) 2014-2015 (2) 2013-2014
(3) 2015-2016 (4) 2017-2018
24. The ratio of the areas of two triangles ABC and PQR is 3 : 5 and the ratio of their heights is 5 : 3. The ratio of the bases of triangle ABC to that of triangle PQR is:
- (1) 1 : 1 (2) 25 : 9
(3) 9 : 25 (4) 2 : 1
25. If a 10-digit number $7220x558y2$ is divisible by 88. then the value of $(5x - 5y)$ is:
- (1) 10 (2) 25
(3) 15 (4) 35

Answers

1. (4)	2. (1)	3. (1)	4. (3)	5. (2)
6. (1)	7. (4)	8. (3)	9. (2)	10. (4)
11. (3)	12. (2)	13. (2)	14. (3)	15. (1)
16. (1)	17. (2)	18. (2)	19. (2)	20. (4)
21. (2)	22. (4)	23. (2)	24. (3)	25. (3)

1. If $(x + 7)^3 + (2x+8)^3 + (2x + 3)^3 = 3(x + 7)(27 + 8)(2x+3)$, then what is the value of x ?
- (1) -3.6 (2) 3.6
(3) 2.4 (4) -2.4
2. If $3^{\sqrt{x}} + 4^{\sqrt{x}} = 5^{\sqrt{x}}$ then the value of x is:
- (1) 8 (2) 2
(3) 4 (4) 1
3. If $6(\sec^2 59^\circ - \cot^2 31^\circ) - \frac{2}{3} \sin 90^\circ - 3 \tan^2 56^\circ + \tan^2 34^\circ = \frac{y}{3}$ then the value of y is:
- (1) $\frac{8}{5}$ (2) $-\frac{8}{5}$
(3) $\frac{2}{3}$ (4) $-\frac{2}{3}$
4. If $x = 2 - \sqrt{3}$ then the value of $x^3 - x^{-3}$ is:
- (1) $-30\sqrt{3}$ (2) $30\sqrt{3}$
(3) $-30\sqrt{2}$ (4) $30\sqrt{2}$
5. In a ΔABC , the bisectors of $\angle B$ and $\angle C$ meet at point O within the triangle. If $\angle A = 132^\circ$, then the measure of $\angle BOC$ is:
- (1) 66° (2) 84°
(3) 132° (4) 156°
6. If $\sec \theta = 3x$ and $\tan \theta = \frac{3}{x}$, ($x \neq 0$) then the value of $9(x^2 - \frac{1}{x^2})$ is:
- (1) $\frac{1}{2}$ (2) $\frac{1}{3}$
(3) 1 (4) $\frac{1}{4}$
7. A circle is inscribed in a triangle ABC. It touches sides AB, BC and AC at the points P, Q and R respectively. If $BP = 5.4$ cm, $CQ = 7.3$ cm and $AR = 6.1$ cm, then the perimeter (in cm) of the ΔABC is:
- (1) 37.25 (2) 37.6
(3) 36 (4) 37



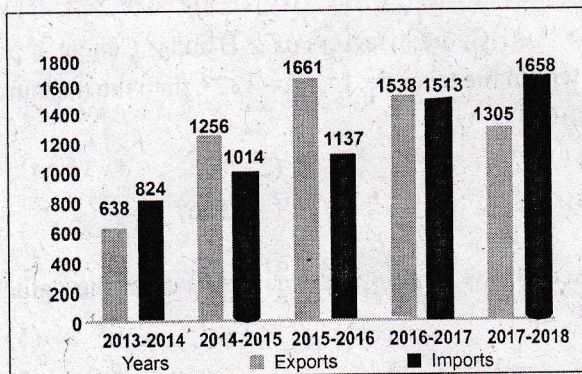
8. The average age of four brothers is 14 years. If their father is also included, the average is increased by 4 years. The age of the father (in years) is:
- (1) 36 (2) 34
(3) 40 (4) 38

9. If $\cos x = \frac{-1}{2}$ and $\pi < x < \frac{3\pi}{2}$, then the value of $2 \tan^2 x + 3 \operatorname{cosec}^2 x$ is:
- (1) 4 (2) 10
(3) 8 (4) 16

10. Two students, A and B, appeared for an examination. A secured 8 marks more than B and the marks of the former was 55% of the sum of their marks. The marks obtained by A and B, respectively, are:
- (1) 44, 36 (2) 36, 28
(3) 38, 30 (4) 40, 32

11. If $x\%$ of y is 150 and $y\%$ of z is 300, then the relation between x and z is:
- (1) $z = x$ (2) $z = x/3$
(3) $z = x^2$ (4) $z = 2x$

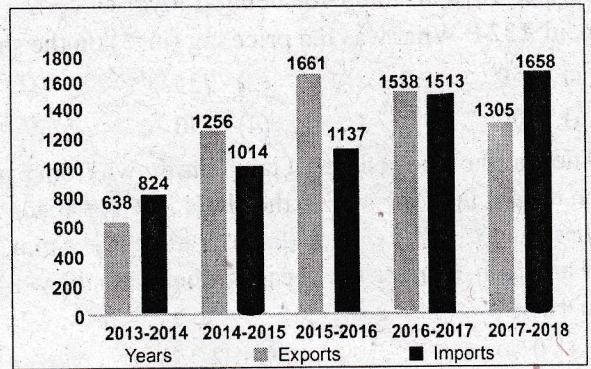
12. The given Bar Graph presents the Imports and Exports of an item (in tonnes) manufactured by a company for the five financial years, 2013-2014 to 2017-2018.



In which financial year, the absolute difference of the Exports to those of Imports is the lowest?

- (1) 2016-2017 (2) 2015-2016
(3) 2014-2015 (4) 2013-2014
13. A person purchased a vehicle for ₹4,90,828 and sold it for ₹5,52,920. What is the percent profit earned on this vehicle (correct to two decimal places)?
- (1) 15.51% (2) 11.55%
(3) 19.55% (4) 12.65%

14. The given Bar Graph presents the Imports and Exports of an item (in tonnes) manufactured by a company for the five financial years, 2013-2014 to 2017-2018.



What is the ratio of total Imports to total Exports during 2014-2015, 2015-2016 and 2016-2017?

- (1) 4175 : 4011 (2) 3664 : 4455
(3) 3175 : 3011 (4) 4011 : 4175
15. A, B and C can complete a piece of work in 4, 20 and 60 days respectively. Working together, they can complete the one third of the same work in how many days?
- (1) $1\frac{3}{19}$ (2) $1\frac{1}{19}$
(3) $\frac{3}{19}$ (4) $2\frac{1}{19}$
16. The chord of the contact of tangents drawn from a point on the circle $x^2 + y^2 = a^2$ to the circle $x^2 + y^2 = b^2$ touches the circle $x^2 + y^2 = c^2$ such that $b^p = a^m c^n$, where $m, n, p \in \mathbb{N}$. and m, n, p are prime to each other, then the value of $m + n + p + 3$ is:
- (1) 6 (2) 5
(3) 2 (4) 7
17. There was 25% off on shirt. A lady bought a shirt and got an additional 20% discount for paying in cash and further 10% discount for being a loyal customer. She paid ₹405. What was the price tag (in ₹) on the shirt?
- (1) 650 (2) 600
(3) 750 (4) 725
18. Two numbers are in the ratio of 7 : 5. On diminishing each of them by 40, the ratio becomes 27 : 17. The sum of the numbers is:
- (1) 300 (2) 240
(3) 325 (4) 275



19. The simplified value of $\frac{(3\frac{1}{5} + \frac{3}{5}) \div \frac{8}{5}}{1\frac{1}{7} \div \{\frac{6}{7} - (\frac{1}{7} \div \frac{1}{5})\}}$ is:

- (1) $\frac{19}{7}$ (2) $\frac{19}{8}$
 (3) $\frac{19}{16}$ (4) $\frac{19}{64}$

20. In triangle ABC, the length of BC is less than twice the length of AB by 3 cm. The length of AC exceeds the length of AB by 9 cm. The perimeter of triangle is 34 cm. The length (in cm) of the smallest side of the triangle is:

- (1) 10 (2) 9
 (3) 7 (4) 8

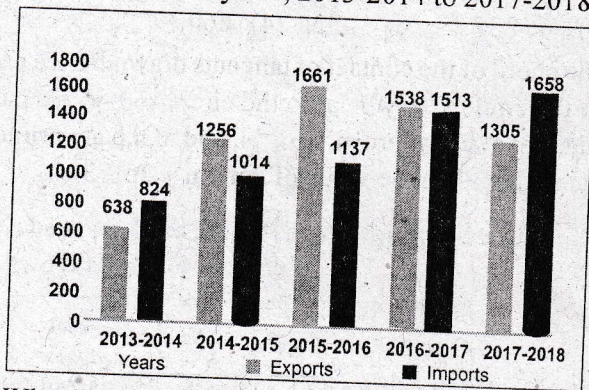
21. The ratio between the speeds of two trains is 5 : 7. If the first train covers 300 km in 3 hours, then the speed (in km/h) of the first train is:

- (1) 150 (2) 140
 (3) 100 (4) 120

22. If a 10x558y2 is divisible by 88, then the value of (5x + 5y) is:

- (1) 20 (2) 40
 (3) 30 (4) 50

23. The given Bar Graph presents the Imports and Exports of an item (in tonnes) manufactured by a company for the five financial years, 2013-2014 to 2017-2018.



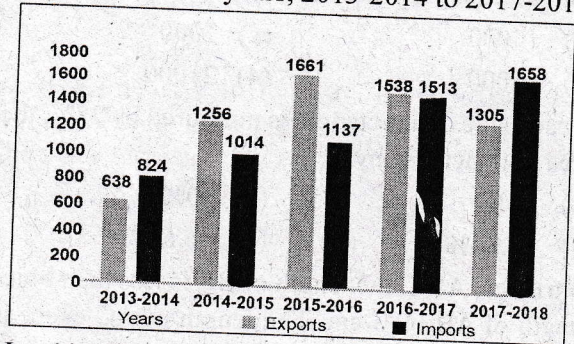
What is the average of absolute difference between Exports and Imports (in tonnes) during the five financial years?

- (1) 266 (2) 260
 (3) 264 (4) 256

24. The ratio of the areas of two triangles ABC and PQR is 4 : 5 and the ratio of their heights is 5 : 3. The ratio of the bases of triangle ABC to that of triangle PQR is:

- (1) 12 : 25 (2) 11 : 15
 (3) 15 : 11 (4) 25 : 12

25. The given Bar Graph presents the Imports and Exports of an item (in tonnes) manufactured by a company for the five financial years, 2013-2014 to 2017-2018.



In which financial year the percentage increase in Imports and Exports taken together is the lowest in comparison to its previous financial year?

- (1) 2015-2016 (2) 2014-2015
 (3) 2016-2017 (4) 2017-2018

Answers

1. (1)	2. (1)	3. (1)	4. (1)	5. (4)
6. (3)	7. (2)	8. (2)	9. (2)	10. (1)
11. (4)	12. (1)	13. (4)	14. (2)	15. (2)
16. (4)	17. (3)	18. (1)	19. (4)	20. (3)
21. (3)	22. (2)	23. (1)	24. (1)	25. (3)

14. CHSL (10+2) Examination-2018

Test Time 10:00 AM - 11:00 AM

Test Date 08/07/2019

- If a 8-digit number $30x558y2$ is divisible by 88, then the value of $(6x + 6y)$ is:
 (1) 42 (2) 66
 (3) 35 (4) 30
- In a ΔABC , the bisectors of $\angle B$ and $\angle C$ meet at point O within the triangle. If $\angle A = 110^\circ$, then the measure of $\angle BOC$ is:
 (1) 110° (2) 84°
 (3) 145° (4) 55°
- The sum of salaries of A and B is ₹43000. A spends 95% of his salary and B spends 80% of his salary. If their savings are the same, what is A's salary (in ₹)?
 (1) 8000 (2) 34400
 (3) 10600 (4) 35000
- Two students, A and B, appeared for an examination. A secured 8 marks more than B and the marks of the former was 55% of the sum of their marks. The sum of the marks obtained by A and B is:
 (1) 90 (2) 80
 (3) 75 (4) 100



5. A and B can complete a piece of work in 15 days and 10 days respectively. They got a contract to complete the work for Rs35000. The share of A (in Rs) in the contracted money will be:

- (1) 14000 (2) 7000
(3) 15000 (4) 21000

6. If each side of a rectangle is measured by 22%, then its area will increase by:

- (1) 44% (2) 50%
(3) 48.84% (4) 46.65%

7. In triangle ABC, the length of BC is less than twice the length of AB by 3 cm. The length of AC exceeds the length of AB by 9 cm. The perimeter of triangle is 34 cm. The length (in cm) of the smallest side of the triangle is:

- (1) 7 (2) 10
(3) 9 (4) 8

8. If $(x+8)^3 + (2x+16)^3 + (2x+13)^3 = 3(x-8) + (2x+16) + (2x+13)$, then what is the value of x ?

- (1) 0.7 (2) -1
(3) 0 (4) 1

9. If $x = 2 + \sqrt{3}$ then the value of $x^3 + x^{-3}$ is:

- (1) 52 (2) -52
(3) $-52\sqrt{3}$ (4) $52\sqrt{3}$

10. A person purchased a vehicle for ₹4,90,828 and sold it for ₹5,89,828. What is the percent profit earned on the vehicle (correct to two decimal places)?

- (1) 20.42% (2) 25%
(3) 18.65% (4) 15%

11. The ratio between the speed of two trains is 2 : 5. If the first train covers 350 km in 5 hours, then the speed (in km/h) of the first train is:

- (1) 180 (2) 175
(3) 165 (4) 150

12. Two numbers are in the ratio 3 : 4. On increasing each of them by 30, the ratio becomes 9 : 10. The sum of the numbers is :

- (1) 25 (2) 35
(3) 30 (4) 32

13. A dealer buys an article marked at ₹20000 with two successive discounts of 20% and 5%. He spends Rs.1000 for its repair and sells it for Rs.20000. What is his profit/loss percent (correct to two decimal places)?

- (1) 25.64% loss (2) 23.46% profit
(3) 25.64% profit (4) 23.64% loss

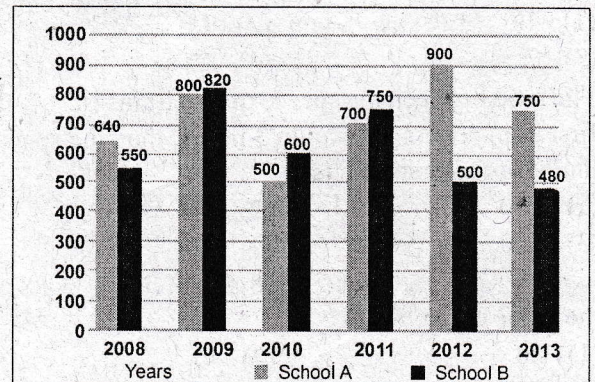
14. The average age of fifteen persons is years. If two more persons are added, then the average is increased by years. The new persons have age difference of years. The age (in years) of the younger among the new persons is:

- (1) 50 (2) 61
(3) 54 (4) 58

15. If $3\sqrt[3]{x} + 4\sqrt[3]{x} = 5\sqrt[3]{x}$ then the value of x is:

- (1) 2 (2) 4
(3) 8 (4) 16

16. The given Bar Graph presents the number of students of two schools for six years.



What is the average number of students from school B during the six year period (correct to two decimal places)?

- (1) 656.17 (2) 616.67
(3) 664.37 (4) 660.17

17. The chord of the contact of tangents drawn from a point on the circle $x^2 + y^2 = a^2$ to the circle $x^2 + y^2 = c^2$ such that $b^p = a^m c^n$, where $m, n, p \in \mathbb{N}$, and m, n, p are prime to each other, then the value of $2m + n + 2p - 3$ is:

- (1) 6 (2) 4
(3) 5 (4) 2

18. The simplified value of $\frac{(3\frac{1}{5} + \frac{3}{5}) \div \frac{8}{5}}{1\frac{1}{7} \div \{\frac{5}{7} + (\frac{1}{7} \div \frac{1}{3})\}}$ is:

- (1) $\frac{19}{64}$ (2) $\frac{19}{16}$
(3) $\frac{19}{7}$ (4) $\frac{19}{8}$

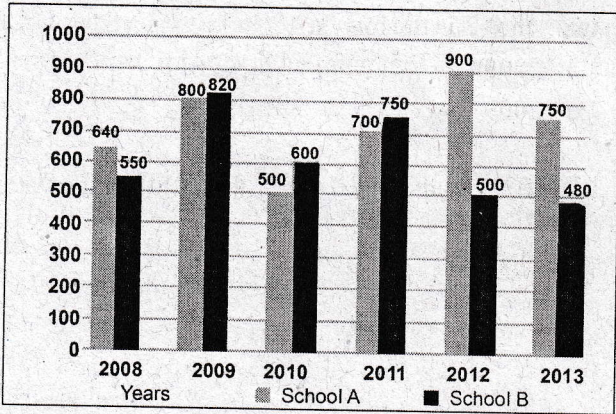


19. If $\operatorname{cosec}\theta = 3x$ and $\cot\theta = \frac{3}{x}$, ($x \neq 0$) then the value of

$6(x^2 - \frac{1}{x^2})$ is:

- (1) $\frac{1}{4}$ (2) $\frac{1}{2}$
 (3) 1 (4) $\frac{2}{3}$

20. The given Bar Graph presents the number of students of two schools for six years.



In which year, the absolute difference between the numbers of students in two schools is the highest?

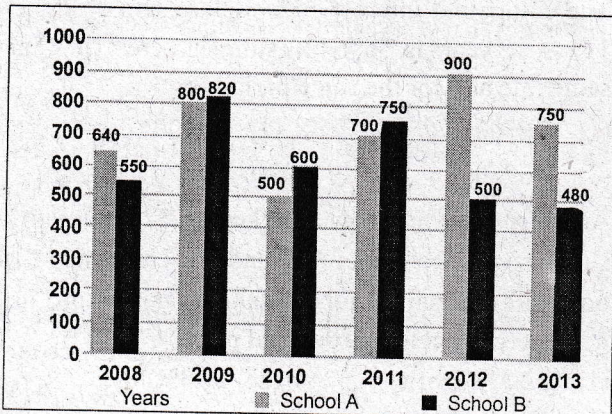
- (1) 2010 (2) 2013
 (3) 2012 (4) 2011

21. If $\cos x = \frac{-1}{2}$ and $\pi < x < \frac{3\pi}{2}$, then the value of

$2 \tan^2 x - 3 \operatorname{cosec}^2 x$ is:

- (1) 10 (2) 8
 (3) 4 (4) 2

22. The given Bar Graph presents the number of students of two schools for six years.



In which year, the percentage increase in students in school B is the highest in comparison to its previous year?

- (1) 2013 (2) 2009
 (3) 2010 (4) 2011

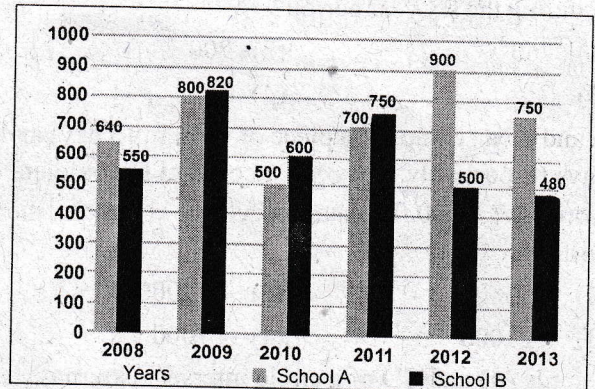
23. If $2(\operatorname{cosec}^2 39^\circ - \tan^2 51^\circ) - \frac{2}{3} \sin 90^\circ - \tan^2 56^\circ y \tan^2 34^\circ = \frac{y}{3}$ then the value of y is:

- (1) -1 (2) $-\frac{2}{3}$
 (3) $\frac{2}{3}$ (4) 1

24. There are two circles of radius 5 cm and 3 cm respectively. The distance between their centres is 10 cm. The length (in cm) of a transverse common tangent is:

- (1) 6 (2) 9
 (3) 8 (4) 10

25. The given Bar Graph presents the number of students of two schools for six years.



What is the ratio of students taken for all years together from School B to that from school A?

- (1) 401 : 415
 (2) 429 : 370
 (3) 370 : 429
 (4) 415 : 401

Answers

1. (1)	2. (3)	3. (2)	4. (2)	5. (1)
6. (3)	7. (3)	8. (4)	9. (1)	10. (1)
11. (2)	12. (2)	13. (2)	14. (3)	15. (4)
16. (2)	17. (2)	18. (4)	19. (4)	20. (3)
21. (4)	22. (2)	23. (4)	24. (1)	25. (3)

