



Your Personal Exams Guide



NDA



CDS



SSC CGL



CBSE UGC NET



IAS



SSC CHSL



CTET



MPSC



AFCAT



CSIR UDC NET



IBPS PO



UP POLICE



SSC MTS



SBI PO



BPSC



UP TET



IBPS RRB



IBPS CLERK



IES



UPSC CAPF



SSC Stenogr..



RRB NTPC



SSC GD



RBI GRADE B



RBI Assistant



DSSSB

SSC CGL 2018 Tier-I Previous Year Paper (07-Jun-2019) (Shift 2)

Total Time: 1 Hour

Total Marks: 200

Instructions

Sl No.	Section Name	No. of Question	Maximum Marks
1	General Intelligence and Reasoning	25	50
2	General Awareness	25	50
3	Quantitative Aptitude	25	50
4	English Comprehension	25	50

- 1.) A total of 60 minutes is allotted for the examination.
- 2.) The server will set your clock for you. In the top right corner of your screen, a countdown timer will display the remaining time for you to complete the exam. Once the timer reaches zero, the examination will end automatically. The paper need not be submitted when your timer reaches zero.
- 3.) There will, however, be sectional timing for this exam. You will have to complete each section within the specified time limit. Before moving on to the next section, you must complete the current one within the time limits.

General Intelligence and Reasoning

1. Select the combination of letters that when sequentially placed in the given letter series will complete the series. (+2, -0.5)

db_cbd_ba_bd_bac_d

- a. adcdb
- b. adbcd
- c. bdcdb
- d. dacdb

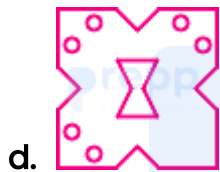
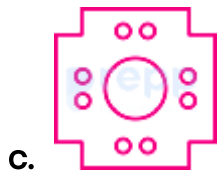
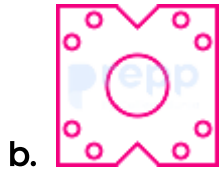
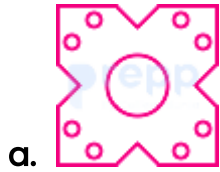
2. Which number will replace the question mark (?) in the following series? (+2, -0.5)

5, 12, 26, 54, ?

- a. 92
- b. 110
- c. 112
- d. 98

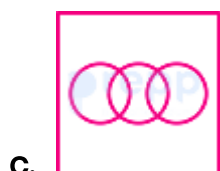
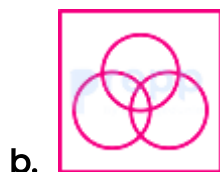
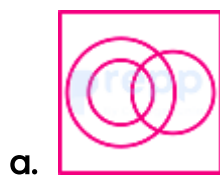
3. A square paper is folded and cut as shown below. How will it appear when unfolded? (+2, -0.5)





4. Select the Venn diagram that best illustrates the relationship between the following classes. (+2, -0.5)

Graduates, Teachers, Literates





d.

-
5. Three of the following four numbers are alike in a certain way and one is different. Pick the number that is different from the rest. (+2, -0.5)

- a. 39
- b. 63
- c. 57
- d. 43

-
6. Three of the following four letter-clusters are alike in a certain way and one is different. Pick the odd one out. (+2, -0.5)

- a. PQUR
- b. HLIO
- c. DBFA
- d. RSTY

-
7. Select the number-pair in which the two numbers are related in the same way as are the two numbers of the following number-pair. (+2, -0.5)

12 : 42

- a. 16 : 52

b. 15 : 52

c. 24 : 82

d. 8 : 30

8. Select the set in which the numbers are related in the same way as are the numbers of the following set. (+2, -0.5)

(3, 16, 5)

a. (9, 35, 11)

b. (7, 32, 9)

c. (11, 45, 14)

d. (5, 26, 19)

9. Two different positions of the same dice are shown. Which number will be at the top if 6 is at the bottom? (+2, -0.5)



a. 2

b. 3

c. 4

d. 5

10. Three of the following four words are alike in a certain way and one is different. Pick the odd. (+2, -0.5)

- a. Disparage
- b. Denigrate
- c. Awkward
- d. Condemn

11. Arrange the following words in a logical and meaningful order. (+2, -0.5)

- 1. Learn
- 2. College
- 3. Degree
- 4. Admission
- 5. Assessment
- 6. Class

- a. 4, 2, 1, 6, 3, 5
- b. 4, 2, 6, 1, 5, 3
- c. 2, 1, 4, 5, 6, 3
- d. 5, 4, 2, 1, 6, 3

12. Two statements are given, followed by three conclusions numbered I, II and III. Assuming the statements to be true even if they seem to be at (+2, -0.5)

variance with commonly known facts, decide which of the conclusions logically follow(s) from the statements.

Statements:

Some roads are streets

Some streets are lanes

Conclusions:

I. No road is a lane

II. All streets are lanes

III. Some lanes are roads

- a. Only conclusions II and III follow
- b. Only conclusion I follows
- c. Only conclusion II follows
- d. Either conclusions I or III follows

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13. The ratio of the present age of Mitali to that of Shabnam is 4 : 7. If the difference between the present age of Shabnam and the age of Mitali after 5 years will be 13 years, then what is the sum of the present ages of Mitali and shabnam? (+2, -0.5)
- a. 74 years
 - b. 64 years
 - c. 66 years
 - d. 60 years
-

14. Which two signs should be changed in the following equation to make it correct? (+2, -0.5)

$$9 - 3 + 12 \times 8 \div 4 = 11$$

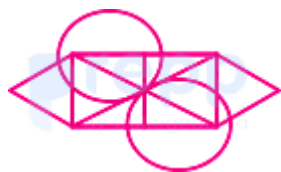
- a. and $\div$
- b. + and $\div$
- c. + and -
- d. + and $\times$

15. In a code language, REGULAR is written as GERTRAL. How will BROTHER be written as in that language? (+2, -0.5)

- a. ROBSERH
- b. ORBUREH
- c. ORBEHTS
- d. ORBSREH

16. Select the figure in which the given figure is embedded. (+2, -0.5)

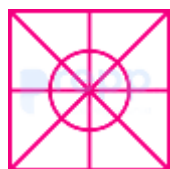




b.



c.



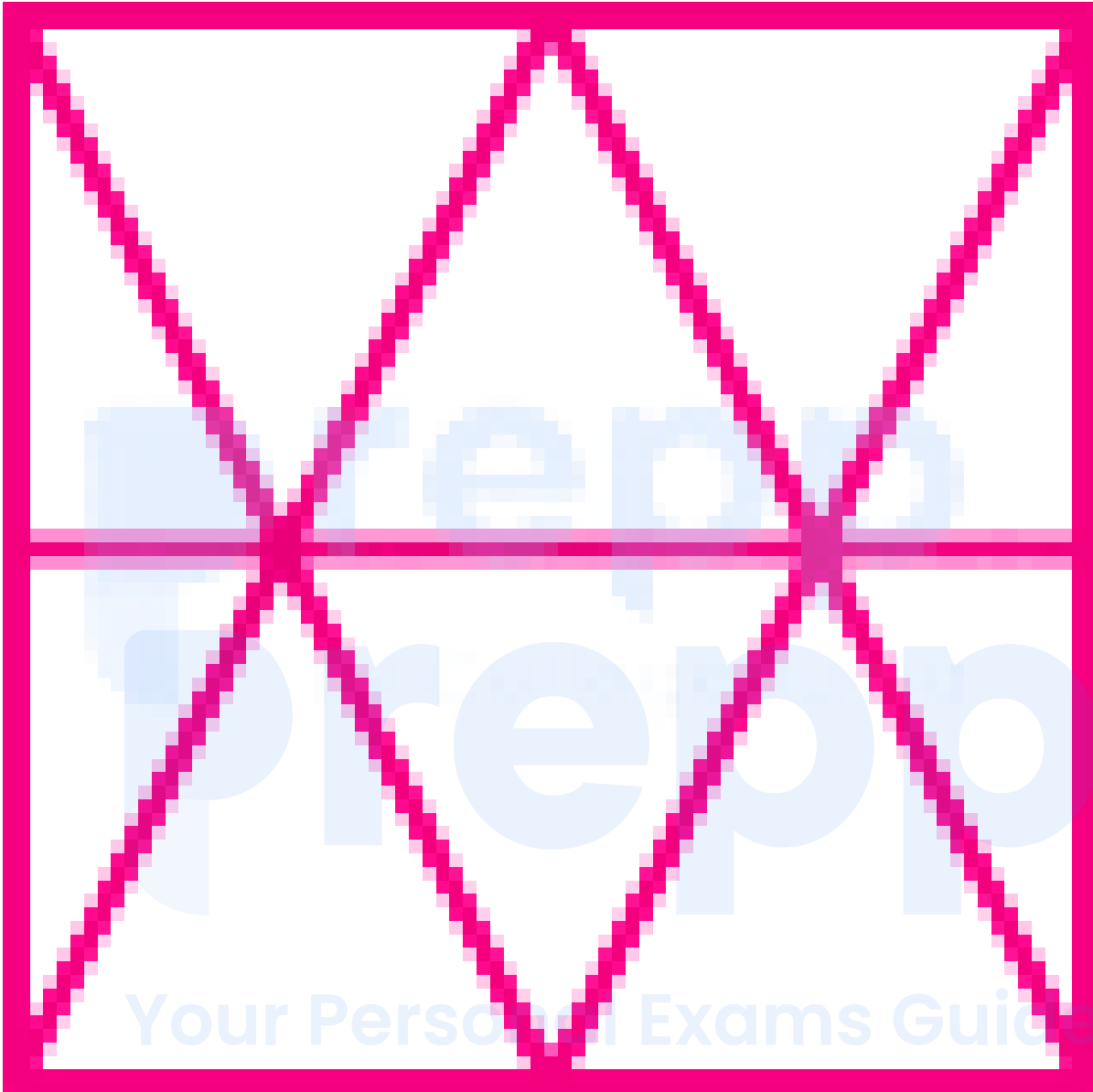
d.

17. How many triangles are there in the following figure?

(+2, -0.5)

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a. 14

b. 20

c. 18

d. 16

-
18. Select the word-pair in which the two words are related in the same way as are the two words in the following word pair. (+2, -0.5)

Caress : Affection

- a. Crime : Confession
- b. Anger : Emotion
- c. Kick : Hostility
- d. Interview : Selection

19. Select the figure that will come next in the following figure series.

(+2, -0.5)



20. Select the option that is related to third letter – cluster in the same way as the second letter – cluster is related to the first letter – cluster (+2, -0.5)

DFIM : WURN : GKNP : ?

- a. TROK
- b. TPNL
- c. TPMK
- d. SOLJ

21. Select the set in which the numbers are related in the same way as are the numbers of the following set. (+2, -0.5)

(8, 15, 9)

- a. (9, 12, 16)
- b. (5, 17, 11)
- c. (4, 16, 12)
- d. (7, 13, 14)

22. Select the mirror image of the given figure when the mirror is placed to the right of the figure (+2, -0.5)

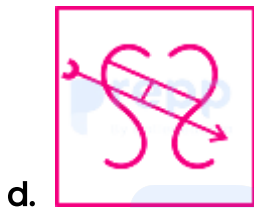
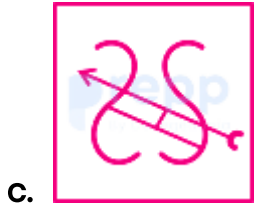
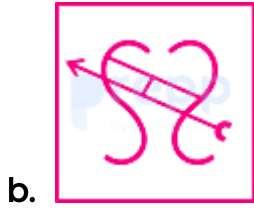


A



B





23. If CLEAN is coded as 1415123 and BLOW is coded as 2315122, then how will JOKE be coded as? (+2, -0.5)

- a. 1011155
- b. 5111510
- c. 5121611
- d. 4111612

24. P is the sister of Q and mother of R. S is the daughter-in-law of W and Wife of Q. W's grandson M is the nephew of P and brother of V. W has only two children. How is Q related to v? (+2, -0.5)

- a. Father
- b. Son

c. Brother

d. Uncle

25. 'Disconnect' is related to 'Unify' in the same way as 'Mend' is related to '_'. (+2, -0.5)

a. Stitch

b. Damage

c. Rough

d. Discomfort

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General Awareness

26. Which Indian monument was built by Maharaja Sawai Pratap Singh in the year 1799? (+2, -0.5)
- a. Mattancherry Palace
 - b. Mysore Palace
 - c. Leh Palace
 - d. Hawa Mahal
-
27. Justice _____, who retired from the Supreme Court of India on 6 July 2018, has been appointed as the new chairperson of the National Green Tribunal. (+2, -0.5)
- a. Justice Jawad Rahim
 - b. Adarsh Kumar Goel
 - c. Raghuendra Singh
 - d. Sonam Phintso Wangdi
-
28. _____ Constitutional Amendment Act, 2002 provided for free and compulsory elementary education to all children. (+2, -0.5)
- a. 86th
 - b. 87th
 - c. 85th
 - d. 84th

29. Who had built Taj Mahal, for his wife Mumtaz Mahal along the banks of the Yamuna River in Agra? (+2, -0.5)

- a. Akbar
- b. Jahangir
- c. Aurangzeb
- d. Shah Jahan

30. The Victoria Memorial, conceived by Lord Curzon, represents the architectural climax of _____ city. (+2, -0.5)

- a. Jaipur
- b. Kolkata
- c. Delhi
- d. Mumbai

31. William Crookes was a physical chemist who discovered and named the element _____. (+2, -0.5)

- a. germanium
- b. beryllium
- c. plutonium
- d. thallium

32. There were three bronze medalists from India at the 38th GeeBee Boxing Tournament which was held at Helsinki, Finland. Who amongst the following is NOT one of them? (+2, -0.5)

- a. Naveen Kumar
- b. Sachin Siwach
- c. Dinesh Dagar
- d. Sumit Sangwan

33. Humayun's heir, _____, was born in exile and was only 13 years old when his father died. (+2, -0.5)

- a. Babur
- b. Shah Jahan
- c. Akbar
- d. Jahangir

34. Which of the following was the most important characteristic of India's trade throughout the colonial period? (+2, -0.5)

- a. Import deficiency
- b. Import surplus
- c. Export surplus
- d. Export deficiency

35. In its Global Economic Outlook report, Fitch Ratings cut India's economic growth forecast for the next financial year 2019-20 starting from April 1 to ___% from its previous estimate of 7%. (+2, -0.5)

- a. 6.1
- b. 5.4
- c. 6.8
- d. 6.2

36. Name the longest river in Asia. (+2, -0.5)

- a. Amazon
- b. Yenisei
- c. Nile
- d. Yangtze

37. Who was the prime minister of India during "the Emergency" between the year 1975 to 1977? (+2, -0.5)

- a. Indira Gandhi
- b. Charan Singh
- c. Moraj Desai
- d. Rajiv Gandhi

38. _____ received the very first Nobel Prize in Physics in 1901 for his discovery of X-rays? (+2, -0.5)

- a. William Thomson
 - b. Wilhelm Röntgen
 - c. Louis Pasteur
 - d. William Crookes
-

39. The Red Fort and the Jama Masjid in Delhi stand out as towering achievements of architecture during the reign of _____. (+2, -0.5)

- a. Shah Jahan
 - b. Akbar
 - c. Aurangzeb
 - d. Jehangir
-

40. Which river passes through maximum number of countries? (+2, -0.5)

- a. Volga
 - b. Rhine
 - c. Amazon
 - d. Danube
-

41. Electron was discovered in the year 1897 by _____. (+2, -0.5)

- a. Isaac Newton
 - b. J J Thomson
 - c. T. A. Edison
 - d. Nicola Tesla
-

42. Indian naval officer Commander _____ became the only Asian to participate in the prestigious Golden Globe Race (GGR), which commenced from Les Sables d'Olonne harbour in France on 1 July 2018. (+2, -0.5)

- a. Mahendra Nath Mulla
 - b. Pradeep Singh
 - c. Abhilash Tomy
 - d. Rajesh Dhankhar
-

43. _____ won a silver medal at the 38th GeeBee Boxing Tournament which was held at Helsinki, Finland. (+2, -0.5)

- a. Mohammed Hussamuddin
 - b. Sumit Sangwan
 - c. Naveen Kumar
 - d. Sachin Siwach
-

44. Akbar was succeeded by his son, Salim, who took the title of _____, meaning 'Conqueror of the World'. (+2, -0.5)

- a. Jahangir
 - b. Badshah
 - c. Jahapana
 - d. Shah Jahan
-

45. Which of the following is the longest rivers in India? (+2, -0.5)

- a. Brahmaputra
 - b. Godavari
 - c. Ganga
 - d. Kaveri
-

46. World _____Day 2019 was observed on 23 March with the theme 'The Sun, the Earth and the weather'. (+2, -0.5)

- a. Astrological
 - b. Geological
 - c. Geographical
 - d. Meteorological
-

47. A _____ occurs when a government's total expenditures exceed the revenue that it generates, excluding money from borrowings. (+2, -0.5)

- a. Current Account Deficit

- b. Revenue Deficit
 - c. Budgetary Deficit
 - d. Fiscal Deficit
-

48. Pierre Curie shared the 1903 Nobel Prize in Physics with his wife, Marie Curie, and Henri Becquerel for their discoveries related to _____. (+2, -0.5)

- a. Mirror images
 - b. Thermodynamics
 - c. Radioactivity
 - d. X-rays
-

49. On March 23rd, India observes _____ day/divas as a tribute to Bhagat Singh, Sukhdev and Rajguru on their death anniversary. (+2, -0.5)

- a. Shaheed Divas
 - b. Protest Day
 - c. Vidroh Divas
 - d. Tribute Day
-

50. Who won the Nobel Prize in 1906 for his neuron doctrine? (+2, -0.5)

- a. Luis Alvarez
- b. Henry Moseley

c. Santiago Ramón y Cajal

d. Pierre Curie

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Quantitative Aptitude

51. A person sold 25 articles for Rs. 2500 and incurred a loss of 10%. How many articles should he sell for Rs. 2400 to make a profit of 20%? (+2, -0.5)
- a. 20
 - b. 18
 - c. 16
 - d. 15
-

52. **Direction:** The table shows the production of different types of cars (in thousands). Read the table carefully and answer the following question. (+2, -0.5)

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Year					
	2010	2011	2012	2013	2014
Car					
A	46	69	61	57	63
B	40	56	52	68	64
C	54	55	45	60	56
D	42	53	44	56	65
E	68	67	61	64	72

The average production of all type of cars in 2014 is approximately what percent less than the production of type B cars in 2013 and type D cars in 2010 taken together?

- a. 44.4%
- b. 43.2%
- c. 41.8%
- d. 44.9%

53. If the 10-digit number $897359y7x2$ is divisible by 72, then what is the value of $(3x - y)$, for the possible maximum value of x and y ? (+2, -0.5)

- a. 25
- b. 23
- c. 21
- d. 22

54. If $x^2 - 3x - 1 = 0$, then the value of $(x^2 + 8x - 1)(x^3 + x^{-1})^{-1}$ is: (+2, -0.5)

- a. 3
- b. 8
- c. $\frac{3}{8}$
- d. 1

55. The total number of students in section A and B of a class is 110. The number of students in section A is 10 more than that of section B. The average score of the student in B, in a test, is 20% more than that of students in A. If the average score of all students in the class is 72, then what is the average score of the students in A? (+2, -0.5)

- a. 66
- b. 63
- c. 70
- d. 68

56. A is 20% less than B while C is 20% more than D. If D is 25% less than A which of the following is true : (+2, -0.5)

- a. $C = 0.72 B$
- b. $B = 0.675 C$
- c. $B = 0.72 C$
- d. $C = 0.675 B$

57. The area of a field in the shape of a triangle with each side x meters is equal to the area another triangular field having sides 50 m. 70 m and 80 m. The value of x is closed to: (+2, -0.5)

- a. 61.8
- b. 62.4
- c. 65.5
- d. 63.2

58. In a circle of radius 10 cm and centre O, PQ and PR are two equal chords, each of length 12 cm. What is the length of chord QR? (+2, -0.5)

- a. 18.6
- b. 18.4
- c. 19.2
- d. 20.4

59. A Person can row a distance of 4 km upstream in one hour 20 minutes and can row back to the starting point in just 24 minutes. How much time (in hours) will he take to row 13 km in still water? (+2, -0.5)

- a. 3
- b. $2\frac{1}{2}$
- c. $3\frac{1}{2}$
- d. 2

60. The price of two articles are in the ratio 4 : 5. If the price of the first article is increased by $x\%$ and that of the other is decreased by 30%, then new prices of A and B will be in the ratio 10 : 7. The value of x is: (+2, -0.5)

- a. 24.5
- b. 20
- c. 25
- d. 22.5

61. In $\triangle ABC$, $\angle A$ is a right angle. The length of AC and BC are 6 cm and 10 cm respectively. Point D is on AB such that $BD = 4$ cm. What is the length of CD? (+2, -0.5)

- a. $2\sqrt{10}$ cm
- b. $3\sqrt{10}$ cm
- c. $3\sqrt{13}$ cm
- d. $2\sqrt{13}$ cm

62. If $(135\sqrt{5}x^3 - 2\sqrt{2}y^3) \div (3\sqrt{5}x - \sqrt{2}y) = Ax^2 + By^2 + \sqrt{10}Cxy$, then the value of $(A + B - 9C)$ is: (+2, -0.5)

- a. 20
- b. 10
- c. 18
- d. 12

63. **Direction:** The table shows the production of different types of cars (in thousands). Read the table carefully and answer the following question. (+2, -0.5)

Year					
	2010	2011	2012	2013	2014
Car					
A	46	69	61	57	63
B	40	56	52	68	64
C	54	55	45	60	56
D	42	53	44	56	65
E	68	67	61	64	72

The total production of type A cars in 2011 and type C cars and type E Cars in 2012 taken together is what percent of the total production of type B cars during 2010 to 2014?

- a. 54.7%
- b. 58.8%
- c. 60.4%
- d. 62.5%

64. **Direction:** The table shows the production of different types of cars (in thousands). Read the table carefully and answer the following question. (+2, -0.5)

Year					
	2010	2011	2012	2013	2014
Car					
A	46	69	61	57	63
B	40	56	52	68	64
C	54	55	45	60	56
D	42	53	44	56	65
E	68	67	61	64	72

What is the ratio of the total production of type B cars in 2011 and type E cars in 2013 taken together to the total production of type C cars in 2014 and type D cars in 2012 taken together?

a. 16 : 11

b. 5 : 6

c. 6 : 5

d. 8 : 9

65. A sum of Rs. P was borrowed and paid back in two equal yearly instalments, each of Rs. 35,280. If the rate of interest was 5% compounded annually, then the value of P is: (+2, -0.5)

a. 65,400

b. 64,400

c. 65,600

d. 64,800

66. In $\triangle ABC$, AD bisects $\angle A$ which meets BC at D. If $BC = a$, $AC = b$ and $AB = c$, then $DC = ?$ (+2, -0.5)

a. $ac/(a + b)$

b. $ac/(a + c)$

c. $ab/(b + c)$

d. $bc/(a + c)$

67. A shopkeeper sells an item for Rs. 492 after allowing 18% discount on its marked price. Had he not allowed any discount he would have earned a profit of 20% on the cost price. What is the cost price of the item? (+2, -0.5)

- a. Rs. 640
- b. Rs. 540
- c. Rs. 500
- d. Rs. 600

68. ABCD is a cyclic quadrilateral whose side AB is the diameter of a circle through A, B, C and D. If $\angle ADC = 130^\circ$, then the measure of $\angle BAC$ is: (+2, -0.5)

- a. 45°
- b. 40°
- c. 35°
- d. 50°

69. If $9a^2 + 4b^2 + c^2 + 21 = 4(3a + b - 2c)$, then the value of $(9a + 4b - c)$ is: (+2, -0.5)

- a. 2
- b. 6
- c. 16
- d. 12

70. To do a certain work, A and B work on alternate days, with B beginning the work on the first day. A can finish the work alone in 48 days. If the work gets completed in $11\frac{1}{3}$ days, then B alone can finish 4 times the same work in: (+2, -0.5)

- a. 32 days
- b. 24 days
- c. 27 days
- d. 35 Days

71. If $\left(\frac{\tan\theta - \sec\theta + 1}{\tan\theta + \sec\theta - 1}\right) \sec\theta = \frac{1}{k}$ then $k = ?$ (+2, -0.5)

- a. $1 - \sin\theta$
- b. $1 + \cos\theta$
- c. $1 + \sin\theta$
- d. $1 - \cos\theta$

72. If $\sin\theta = a / \sqrt{a^2 + b^2}$, $0^\circ < \theta < 90^\circ$, then the value of $\sec\theta + \tan\theta$ is: (+2, -0.5)

- a. $\frac{\sqrt{a^2 + b^2} + a}{2b}$
- b. $\frac{\sqrt{a^2 + b^2} + b}{2a}$
- c. $\frac{\sqrt{a^2 + b^2} + a}{a}$
- d. $\frac{\sqrt{a^2 + b^2} + a}{b}$

73. The value of $7\frac{1}{2} \times (3\frac{1}{5} \div 5\frac{1}{3} \text{ of } 4\frac{1}{2}) + [11 - (\frac{5}{8} + 3 - 1\frac{1}{4})] \div 5\frac{3}{4} - 5 \div 5 \times 5 \text{ of } 5 \div 25$ is: (+2, -0.5)

- a. $1/10$
- b. $1\frac{1}{2}$

c. $3/10$

d. $1/2$

74. If $\cos^2\theta - 3\cos\theta + 2 = \sin^2\theta$, $0^\circ < \theta < 90^\circ$, then the value of $2\operatorname{cosec}\theta + 4\cot\theta$: (+2, -0.5)

a. $2\sqrt{3}$

b. $(4\sqrt{3})/4$

c. $(8\sqrt{3})/3$

d. $4\sqrt{3}$

75. **Direction:** The table shows the production of different types of cars (in thousands). Read the table carefully and answer the following question. (+2, -0.5)

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Year					
	2010	2011	2012	2013	2014
Car					
A	46	69	61	57	63
B	40	56	52	68	64
C	54	55	45	60	56
D	42	53	44	56	65
E	68	67	61	64	72

If the data related to the production of type C cars is represented by a pie-chart, then the central angle of the sector represented production of cars in 2012 will be:

- a. 80°
- b. 72°
- c. $73\frac{1}{2}^\circ$
- d. 60°

English Comprehension

76. In the sentence identify the segment which contains the grammatical error. (+2, -0.5)

The Doon Valley with all its lights look beautiful at night from the top of the mountain.

- a. at night
- b. look beautiful
- c. from the top
- d. with all its lights

-
77. Select the wrongly spelt word. (+2, -0.5)

- a. brittle
- b. brisk
- c. bristel
- d. bridle

-
78. Given below are four jumbled sentences. Select the option that gives their correct order. (+2, -0.5)

- A. It has been a leading producer of both industrial and agricultural goods.
- B. The United States of America holds a dominant position in the world because of its high economic development.
- C. Because of its enormous output, the United States has a major share in world trade.

D. It is also a leader in the development and application of innovative technology.

- a. ABCD
- b. DABC
- c. BACD
- d. BCAD

-
79. **Direction:** In the following passage some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each blank. (+2, -0.5)

During the reign of Aurangzeb, the last of the Mughals, there (1) _____ revolts against the empire. (2) _____ were the revolts of the Marathas, the Sikhs, the Jats and (3) _____ others. After the death of Aurangzeb, the Mughal empire began to (4) _____ fairly fast. The country soon (5) _____ into smaller territories many of which became more or less independent.

Select the most appropriate option for blank No. 5.

- a. broke up
- b. broke out
- c. broke off
- d. broke in

-
80. Select the synonym of the given word. (+2, -0.5)
EXEMPT

- a. reduce
- b. hinder
- c. prevent
- d. exclude

81. Select the correct passive form of the given sentence. (+2, -0.5)

Please take the guest to his room on the 6th floor.

- a. Let the guest be taking to his room on the 6th floor.
- b. You must take the guest to his room on the 6th floor.
- c. You are requested to take the guest to his room on the 6th floor.
- d. The guest should be took to his room on the 6th floor.

82. Select the most appropriate meaning of the given idiom. (+2, -0.5)

On tenterhooks

- a. happy
- b. angry
- c. anxious
- d. unhappy

83. Select the most appropriate word to fill in the blank. (+2, -0.5)

The company management is of the opinion that not wearing a suit and tie at the workplace could create a bad _____ on clients.

- a. outlook

- b. notion
 - c. response
 - d. impression
-

84. Select the antonym of the given word. (+2, -0.5)
SWERVE

- a. droop
 - b. lurch
 - c. straighten
 - d. deviate
-

85. Select the most appropriate meaning of the given idiom. (+2, -0.5)
Lend an ear

- a. to force someone to listen
 - b. to pay attention to
 - c. to not tell someone something
 - d. to not make trouble
-

86. Select the antonym of the given word. (+2, -0.5)

SOBER

- a. agitated

- b.** serious
 - c.** nervous
 - d.** calm
-

87. Select the synonym of the given word.

(+2, -0.5)

RAMPANT

- a.** limited
 - b.** excessive
 - c.** rare
 - d.** gentle
-

88. Given below are four jumbled sentences. Select the option that gives their correct order.

(+2, -0.5)

- A. Since then Boeing has received over 5,000 orders for the aircraft and has delivered 371 to date.
- B. The Max first started flying commercially in 2017.
- C. Boeing had huge hopes for its 737 Max aircraft and viewed it as a key part of its future.
- D. However, the company's market value has plummeted by nearly \$26 billion since the crash in Ethiopia.

- a.** CBAD
- b.** DCBA
- c.** BCDA
- d.** ABCD

89. Select the word which means the same as the group of words given. (+2, -0.5)

A large, deep pot used both in the oven and as a serving vessel.

- a. cauldron
- b. sauce-pan
- c. casserole
- d. skillet

90. Select the most appropriate option to substitute the underlined segment in the given sentence. If no substitution is required, select No improvement. (+2, -0.5)

We can't live without water, will we?

- a. can we
- b. No improvement
- c. do we
- d. won't we

91. Select the correct active form of the given sentence. (+2, -0.5)

The chairs were being arranged in the examination hall by the staff.

- a. The staff has been arranging the chairs in the examination hall.
- b. The chairs were arranging the staff in the examination hall.
- c. The staff has arranged the chairs in the examination hall.

d. The staff was arranging the chairs in the examination hall.

92. Select the word which means the same as the group of words given. (+2, -0.5)

Flowers or leaves woven together in a circle for placing on a coffin or a grave

- a. garland
 - b. bunch
 - c. wreath
 - d. bouquet
-

93. **Direction:** In the following passage some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each blank. (+2, -0.5)

During the reign of Aurangzeb, the last of the Mughals, there (1) _____ revolts against the empire. (2) _____ were the revolts of the Marathas, the Sikhs, the Jats and (3) _____ others. After the death of Aurangzeb, the Mughal empire began to (4) _____ fairly fast. The country soon (5) _____ into smaller territories many of which became more or less independent.

Select the most appropriate option for blank No. 3.

- a. every
 - b. many
 - c. more
 - d. each
-

94. Select the wrongly spelt word.

(+2, -0.5)

- a. noticable
- b. negligible
- c. nuisance
- d. neighbouring

95. In the sentence identify the segment which contains the grammatical error.

(+2, -0.5)

The Japanese artist Yoh Nagao was busy splashing the wall from colours.

- a. was busy
- b. splashing the wall
- c. The Japanese artist
- d. from colours

96. **Direction:** In the following passage some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each blank.

(+2, -0.5)

During the reign of Aurangzeb, the last of the Mughals, there (1) _____ revolts against the empire. (2) _____ were the revolts of the Marathas, the Sikhs, the Jats and (3) _____ others. After the death of Aurangzeb, the Mughal empire began to (4) _____ fairly fast. The country soon (5) _____ into smaller territories many of which became more or less independent.

Select the most appropriate option for blank No. 1.

- a. have been
- b. was
- c. were
- d. are

97. Select the most appropriate option to substitute the underlined segment in the given sentence. If no substitution is required, select No improvement. (+2, -0.5)

His school was 7 km away from his house. I wondered how he covered so long-distance daily on foot.

- a. so long the distance
- b. such long distance
- c. No improvement
- d. such a long distance

98. **Direction:** In the following passage some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each blank. (+2, -0.5)

During the reign of Aurangzeb, the last of the Mughals, there (1) _____ revolts against the empire. (2) _____ were the revolts of the Marathas, the Sikhs, the Jats and (3) _____ others. After the death of Aurangzeb, the Mughal empire began to (4) _____ fairly fast. The country soon (5) _____ into smaller territories many of which became more or less independent.

Select the most appropriate option for blank No. 2.

- a. This
- b. These
- c. It
- d. That

99. **Direction:** In the following passage some words have been deleted. Fill in the blanks with the help of the alternatives given. Select the most appropriate option for each blank. (+2, -0.5)

During the reign of Aurangzeb, the last of the Mughals, there (1) _____ revolts against the empire. (2) _____ were the revolts of the Marathas, the Sikhs, the Jats and (3) _____ others. After the death of Aurangzeb, the Mughal empire began to (4) _____ fairly fast. The country soon (5) _____ into smaller territories many of which became more or less independent.

Select the most appropriate option for blank No. 4.

- a. disintegrate
- b. disperse
- c. disrupt
- d. disturb

100. Select the most appropriate word to fill in the blank. (+2, -0.5)
India is the second largest _____ of cotton in the world.

- a. grower
- b. manufacturer

c. producer

d. creator

prepp

Your Personal Exams Guide

Answers

1. Answer: a

Explanation:

The pattern followed here is,

Here, dbacbd is repeating,

Dbacbd dbacbd dbacbd

Hence, adcdb is the correct answer.

2. Answer: b

Explanation:

The pattern followed here is,

$$5 + (7 \times 1) = 12;$$

$$12 + (7 \times 2) = 26;$$

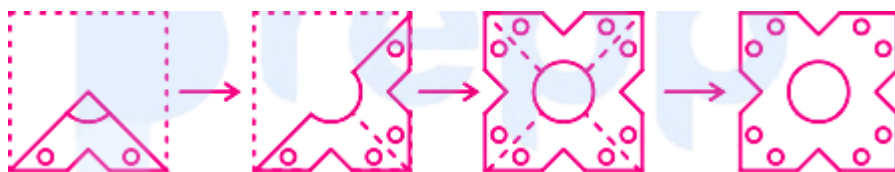
$$26 + (7 \times 4) = 54;$$

$$54 + (7 \times 8) = 110$$

Hence, 110 is the correct answer.

3. Answer: a

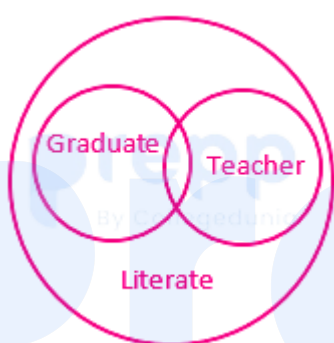
Explanation:



Hence, figure 1 is the correct answer.

4. Answer: d

Explanation:



Some graduates can be teacher,

But both graduates and teachers are literates.

Hence, figure 4 is the correct answer.

5. Answer: d

Explanation:

All numbers except 43, are divisible by 3.

But number 43 is not divisible by 3.

Hence, 43 is the correct answer.

6. Answer: d

Explanation:

All given options, except 'RSTY', contain at least one vowel.

Hence, RSTY is the odd one out.

7. Answer: d

Explanation:

The pattern followed here is,

Second Number = First number $\times$ 3 + 6

$$12 \times 3 + 6 = 36 + 6 = 42$$

$$16 \times 3 + 6 = 54 \neq 53$$

$$15 \times 3 + 6 = 51 \neq 52$$

$$24 \times 3 + 6 = 78 \neq 82$$

$$8 \times 3 + 6 = 30$$

Hence, 8 : 30 is the correct answer.

8. Answer: b

Explanation:

The pattern followed here is,

$$2 \times (\text{First number} + \text{Last number})$$

$$3 + 5 = 8; 8 \times 2 = 16$$

Similarly,

$$7 + 9 = 16; 16 \times 2 = 32.$$

Hence, (7, 32, 9) is the correct answer.

9. Answer: a

Explanation:

Concept:

If one face is common in both the dice,

then write the number in a clockwise direction from it.

Equivalent position number become Opposite number pair to it.

Here,

Here, 3-2-4 and 3-6-1 are the sequence.

(2 and 6), (1 and 4) and the remaining (3 and 5) become the opposite pair.

Thus, if 6 is at the bottom then 2 will be on the top.

Hence, 2 is the correct answer.

10. Answer: c

Explanation:

Here all excepts 'Awkward' are synonyms of each other.

Hence, 'Awkward' is the odd one out.

11. Answer: b

Explanation:

The logical and meaningful order is as follows,

1. Admission
2. College
3. Class
4. Learn
5. Assessment
6. Degree

Hence, 4, 2, 6, 1, 5, 3 is the correct answer.

12. Answer: d

Explanation:

The least possible Venn diagram according to the information is,



No road is a lane → False, it is possible but not definite.

All streets are lanes → False, it is possible but not definite.

Some lanes are roads → False, it is possible but not definite.

Conclusion I and III are complementary pairs

Hence, either conclusions I or III follows.

13. Answer: c

Explanation:

Let the present age of Mitali and Shabnam be $4x$ and $7x$.

Mitali's age after 5 years will be $4x + 5$,

The difference between present age of Shabnam and Mitali's age after 5 years = $7x - (4x + 5) = 13$

$$7x - 4x - 5 = 13$$

$$3x = 13 + 5$$

$$3x = 18$$

$$x = 6$$

Hence present ages of Mitali and Shabnam will be 24 and 42.

Sum of the present age of Mitali and Shabnam = $24 + 42 = 66$

Hence, 66 is the correct answer.

14. Answer: b

Explanation:

Given equation: $9 - 3 + 12 \times 8 \div 4 = 11$

1) Interchanging $-$ and $\div$

$$9 \div 3 + 12 \times 8 - 4$$

$$= 3 + 96 - 4$$

$$= 99 - 4 = 95 \neq 11$$

2) Interchanging + and $\div$

$$9 - 3 \div 12 \times 8 + 4$$

$$= 9 - 0.25 \times 8 + 4$$

$$= 11$$

3) Interchanging + and -

$$9 + 3 - 12 \times 8 \div 4$$

$$= 12 - 24$$

$$= -12 \neq 11$$

4) Interchanging $\times$ and +

$$9 - 3 \times 12 + 8 \div 4$$

$$= 9 - 36 + 8 \div 4$$

$$= 11 - 36$$

$$= -25 \neq 11$$

Hence, by interchanging $\div$ and + we get the correct equation.

15. Answer: d

Explanation:

The pattern followed here is,



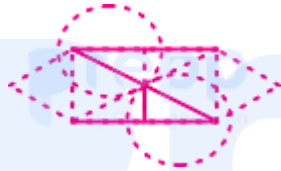
Similarly,



Hence, 'ORBSREH' is the correct answer.

16. Answer: b

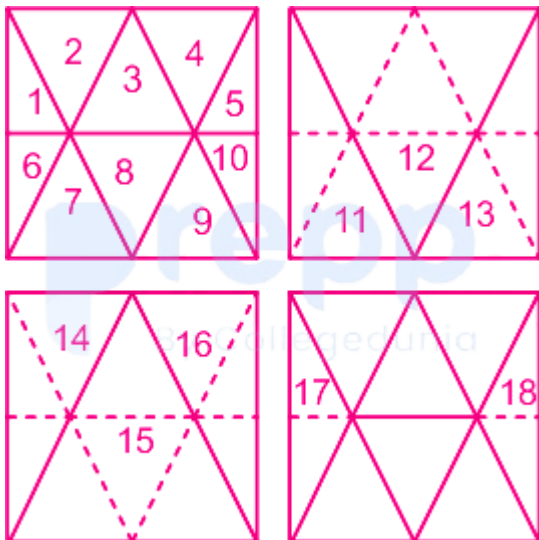
Explanation:



Hence, figure 2 is the correct answer.

17. Answer: c

Explanation:



Hence, 18 is the correct answer.

18. Answer: c

Explanation:

As Caress is synonym of Affection

Similarly,

Synonym of Kick is Hostility

Hence, 'Kick : Hostility' is the correct answer.

19. Answer: a

Explanation:

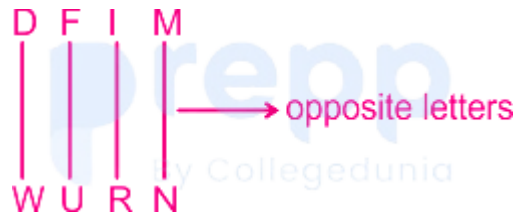


Hence, figure 1 is the correct answer.

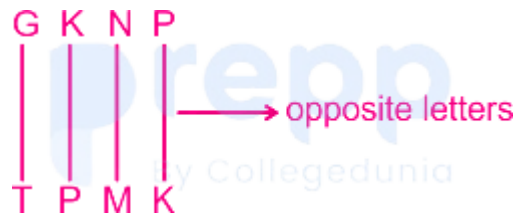
20. Answer: c

Explanation:

Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N



Similarly,



Hence, "TPMK" is the correct answer.

21. Answer: c

Explanation:

The pattern followed here is,

$$(8, 15, 9) = 8 + 15 + 9 = 32$$

Similarly,

$$(4, 16, 12) = 4 + 16 + 12 = 32$$

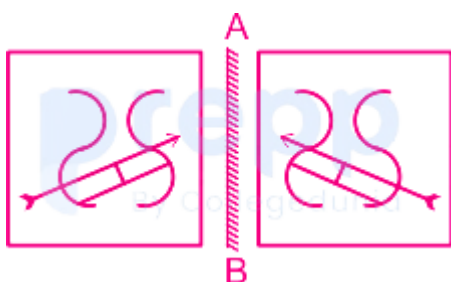
Hence, (4, 16, 12) is the correct answer.

Note: the option has been modified as it was ambiguous.

22. Answer: c

Explanation:

Mirror image is:



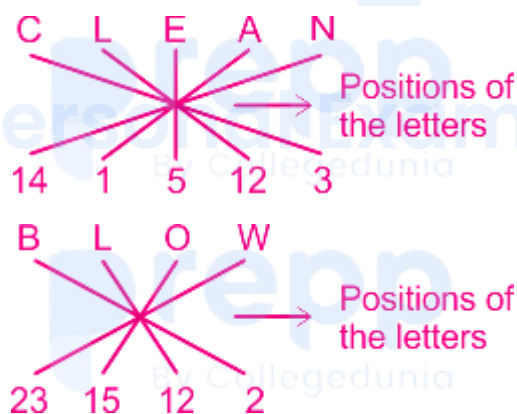
Hence, figure 3 is the correct answer.

23. Answer: b

Explanation:

Alphabets	A	B	C	D	E	F	G	H	I	J	K	L	M
Positional value	1	2	3	4	5	6	7	8	9	10	11	12	13
Positional value	26	25	24	23	22	21	20	19	18	17	16	15	14
Alphabets	Z	Y	X	W	V	U	T	S	R	Q	P	O	N

The pattern followed here is,



Similarly,

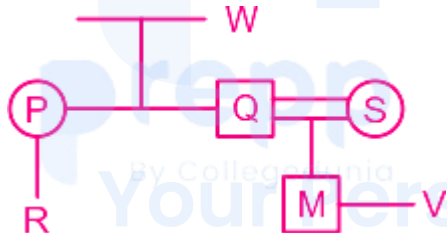


Hence, 5111510 is the correct answer.

24. Answer: a

Explanation:

Symbol in Diagram	Meaning
○	Female
□	Male
==	Married Couple
—	Siblings
	Difference of A Generation



Hence, Q is the father of V.

25. Answer: b

Explanation:

The antonym of 'disconnect' is 'unify'

Similarly,

The antonym of 'mend' is 'damage'

Hence, Damage' is the correct answer.

26. Answer: d

Explanation:

- The **Hawa Mahal** was built by Maharaja Sawai Pratap Singh in 1799.
 - The Hawa Mahal is a grand palace situated in Jaipur.
 - The structure was built in 1799 by the grandson of the original founder of Jaipur, Sawai Jai Singh.
 - The palace is made out of red and pink sandstone and is five floors in height and has a pyramidal shape to it
-

27. Answer: b

Explanation:

- The new chairperson of the National Green Tribunal is **Justice Adarsh Kumar Goel**.
 - He retired from the Supreme Court on 6 July 2018 and appointed the Chairperson on 7 July 2018.
 - The post of chairperson had been lying vacant from 6 months since the retirement of Justice Swatanter Kumar.
 - The National Green Tribunal (NGT) was set up to speed up the process for cases relating to environmental protection and conservation of forests and other natural resources on 18 October 2010.
-

28. Answer: a

Explanation:

- **The 86th Constitutional Amendment** provided constitutional status for free and compulsory elementary education to all children.
 - In other words, the Right To Education was inserted into the Constitution.
 - The insertion was done by the means of Article 21A to provide free education for children between ages between 6 to 14 years.
 - The education shall be free and no kind of fees are to be taken from children.
-

29. Answer: d

Explanation:

- **Shah Jahan built Taj Mahal** as a memorial for his wife Mumtaz Mahal.
 - It acts as the tomb of Shah Jahan's deceased wife Mumtaz Mahal.
 - The original name of Mumtaz Mahal is Arjumand Banu Begum.
 - The mausoleum was commissioned in 1632 and opened for visitors in 1648.
 - It is now listed in the 7 Wonders Of The World and attracts millions of tourists every year.
-

30. Answer: b

Explanation:

- The Victoria Memorial as conceived by Lord Curzon is **located in Kolkata**.
 - It is a marble architectural wonder present in the city of Kolkata.
 - It was built in memory of Queen Victoria of England after her death in 1901.
 - The building was built between 1906 and 1921 and has now been turned into a museum that attracts thousands of visitors annually.
-

31. Answer: d

Explanation:

- **Thallium** was discovered by William Crookes.
- He discovered the element by the means of a spectroscope in 1861.
- The element was later isolated by William Crooke and Claude Auguste Lamy independently in 1862.
- Thallium has symbol **Tl** with atomic number 81 and mass 204.38.

Name	Symbol	Atomic Number	Founder
Germanium	Ge	32	Clemens Winkler
Beryllium	Be	4	Louis Nicolas Vauquelin
Plutonium	Pu	94	Glenn T. Seaborg, Joseph W. Kennedy, Edwin McMillan, Arthur Wahl

32. Answer: c

Explanation:

- **Dinesh Dagar** is not one of the three Indian bronze medallists at the 38th GeeBee Boxing Tournament.
- In fact, Dinesh Dagar was a silver medallist in the 69 kg category at the prestigious event.
- In total, India bagged 8 medals at the 2018 edition of the event listed below.

Medal	Winners
Gold	Kavinder Singh Bisht (56 kg)
Silver	Mohammed Hussamuddin (56 kg), Govind Kumar Sahani (49 kg), Shiva Thapa (60 kg) and Dinesh Dagar (69 kg)
Bronze	Sachin Siwach (52 kg), Sumit Sangwan (91 kg) and Naveen Kumar (+91 kg)

33. Answer: c

Explanation:

★ Key Points

- **Akbar, the third Mughal Emperor** was the heir to the Mughal Empire after the death of his father, Humayun.
- He was born on **15 October 1542** in Umerkot located in Sindh which is in present-day Pakistan.
- During Humayun's exile, Akbar was brought up in Kabul during his early childhood.
- After the death of his father, he succeeded the throne with the help of regent Bairam Khan who helped in his affairs.

34. Answer: c

Explanation:

- A major trade characteristic of trade in the colonial period of India was its export surplus.

- An export surplus is when a country exports more products than it imports from other countries.
- This was because in the colonial period the British allowed large exports of handicraft products and free export of India's raw material.
- Thus exported goods from India were sought after which led to a high volume of export.
- Half of India's export were restricted to Britain and the other major importers were China, Persia and Sri Lanka.

35. Answer: c

Explanation:

- Fitch ratings cut India's economic growth forecast to **6.8% for the financial year 2019-20**
- This cut in forecasted growth was done before the Budget was presented for the year
- On the other hand the RBI had projected a growth of 7%
- Fitch Ratings is a credit rating agency and one of America's largest statistical rating organizations other than Moody's and Standard & Poor's

36. Answer: d

Explanation:

- **The Yangtze** is the longest river in Asia.
- It has a length of 6,380 kilometres.
- It is the third-largest river in the world.
- It starts from central China and flows out into the East China Sea from Shanghai.

Name	Length (km)
Amazon	6,387
Nile	6,690 (the longest river in the world)

37. Answer: a

Explanation:

- **Indira Gandhi served as Prime Minister** during the Emergency between 1975 to 1977.
- The emergency was a 21 month period where the then President Fakhruddin Ali Ahmed on the advice of Indira Gandhi imposed the Emergency under Article 352 of the Constitution.
- There was massive civil unrest in the country due to many factors such as:
 - 1971 Bangladesh Liberation War
 - Refugees of the war
 - Slow industrial growth

38. Answer: b

Explanation:

- **Wilhelm Röntgen** was the first-ever awardee of the Nobel Prize in Physics in 1901.
- He was a German mechanical engineer and also a physicist.
- He received the award for discovering X Rays, which he discovered on 8 November of 1895.
- The Nobel Prize was started in 1901 founded by the Swedish inventor and businessman Alfred Nobel which was written in his will in 1896.
- The Nobel Prize is awarded in six fields which are physics, chemistry, medicine, literature, economics and peace.

39. Answer: a

Explanation:

- The Red Fort and Jama Masjid are two of the many architectural gems built in **Shah Jahan's reign**.
- Even though Shah Jahan is famously known for the Taj Mahal, the Red Fort and Jama Masjid are the other wonders he built in Delhi itself.
- The Red Fort was built in 1639 as his palace for his then capital back then known as Shahjahanad.
- The Jama Masjid was finished in 1656 with a name of Masjid-e-Jahan Numa.

40. Answer: d

Explanation:

- **The Danube river** in Europe is the river that passes through the maximum number of countries in its journey.
- It passes through 10 countries: Germany, Hungary, Romania, Austria, Serbia, Bulgaria, Croatia, Moldova, Ukraine, Slovakia.
- It starts in Southern Germany and runs into the Black Sea through Romania.
- It is the second-longest river in Europe after the Volga with a length of 2,850 kilometres.

41. Answer: b

Explanation:

- The discovery of electron was done by **J J Thomson in 1897**.
- He discovered the subatomic particle in 1897 with experiments with the cathode ray tube.

- A cathode-ray tube is a vacuum tube that produces a stream of electrons that is emitted from a heated metal filament.
 - This discovery led to J J Thomson proposing the first-ever atomic model theory known as the plum pudding model.
 - The plum pudding model which has negatively-charged electrons embedded within a positively-charged "soup".
-

42. Answer: c

Explanation:

- **Abhilash Tomy**, an Indian naval officer Commander was the only Asian to participate in the esteemed Golden Globe Race.
 - He is one of India's most prominent sailors and has already completed a solo circumnavigation of the globe in 2013.
 - He participated in the Golden Globe Race is a global world sailing race which starts from Les Sables d'Olonne harbour in France.
 - The 2018 edition of the race celebrated the 50th anniversary of the original race held in 1968.
 - It does not allow the entrants to use modern technologies and yachts, they can only use yachts which are in the style of those built during the times of the original race which was 50 years ago.
-

43. Answer: a

Explanation:

- Mohammed Hussamuddin won a silver for India at the 38th GeeBee Boxing Tournament.
- He was defeated in the finals by fellow Indian boxer Kavinder Singh Bisht who got the gold medal.
- He competes in the 56 kg category.

- Three more silver medals were won by Indian boxers Govind Kumar Sahani (49kg), Shiva Thapa (60kg) and Dinesh Dagar (69kg).

44. Answer: a

Explanation:

- Salim took the title of **Jahangir** after his father, Akbar's death.
- The full name of Salim is Nur-ud-din Muhammad Salim.
- He was the fourth Mughal Emperor and ruled from 1605 to 1627 till he died.
- His tomb is located in Shahdara which is present in Lahore, Pakistan.

45. Answer: c

Explanation:

- The **Ganga** is the longest river in India.
- It has a length of about **2,525kilometers**.

River	Length (km)
Godavari	1,465
Ganga	2,525
Kaveri	805

46. Answer: d

Explanation:

- World Meteorological Day 2019 was observed on 23rd March.

- The day is celebrated because the World Meteorological Organization was established on 23rd March 1950.
 - The theme for 2019 was 'The Sun, The Earth and The Weather' to emphasize the function of how the sun affects the weather and ocean currents on our planet.
-

47. Answer: d

Explanation:

- A **fiscal deficit** occurs when a government's total expenditures exceed the revenue that it generates, excluding money from borrowings.
 - In other words, a fiscal deficit occurs when the government spends more money than it earns.
 - This gap between income and spending is zeroed by the government borrowing money.
 - Usually, a fiscal deficit is expressed as a percentage of a country's GDP (Gross Domestic Product).
 - India's 2018-19 fiscal deficit was 3.39% of GDP at 6.45 Lakh Crores.
-

48. Answer: c

Explanation:

- The 1903 Nobel Prize in Physics was awarded to the three scientists for their discoveries in **radioactivity**
 - Half of the share of the prize was awarded to Henri Becquerel for his work in discovery of spontaneous radioactivity of uranium salts
 - The other half of the Nobel Prize was shared by Pierre Curie and his wife Marie Curie equally for researching further into the discoveries of Becquerel
 - They managed to extract two previously unknown radioactive elements polonium and radium from the mineral pitchblende
-

49. Answer: a

Explanation:

- **Shaheed Divas** is observed on 23rd March as a tribute to Bhagat Singh, Sukhdev and Rajguru on their death anniversary.
- There are a total of 5 Shaheed Divas (Martyr's Day) celebrated in India.
- The one of 23rd March is a tribute to Bhagat Singh, Sukhdev and Rajguru on their death anniversary.
- This is because the three heroes of the nation were hanged to their deaths as they had sacrificed for the independence of our country.

Date	Tribute to
30 January	Mahatma Gandhi
13 July	In Jammu and Kashmir to memorise the death of 22 people
17 November	Martyr's Day in Odisha to observe the death anniversary of Lala Lajpat Ray
19 November	Martyr's Day in the Jhansi for Rani Lakshmi Bai

50. Answer: c

Explanation:

- It was **Santiago Ramón y Cajal** who won a Nobel Prize along with Camillo Golgi.
- The prize was won for his neuron doctrine which is a theory that states that the nervous system is made up of discrete nervous cells.
- He discovered this using a silver staining technique developed by the Italian scientist Camillo Golgi.
- He first discovered this while investigating cells of bird brains in 1888.

51. Answer: b

Explanation:

A person sold 25 articles for 2500

SP of 1 article = $2500/25 = 100$

CP of 1 article = $100 \times [100/90] = 1000/9$

New SP of 1 article = $[1000/9] \times [120/100] = 400/3$

Number of articles sold in Rs. 2400 = $2400 \div [400/3] = 18$

52. Answer: c

Explanation:

Total production of cars in 2014 = $63 + 64 + 56 + 65 + 72 = 320$ thousands

Average production of cars in 2014 = $320/5 = 64$ thousands

Total production of type B cars in 2013 and type D cars in 2010 = $68 + 42 = 110$

$\therefore$ Required percentage = $[(110 - 64)/110] \times 100 = 41.81\%$

53. Answer: b

Explanation:

Divisibility rule of 9: A number divisible by 9 if the sum of its digit is divisible by 9.

Divisibility rule of 8: A number divisible by 8 if the last three digit of the number is divisible by 8

If 10 digit number 897359y7x2 is divisible by 72. So, we can say number also divisible by 9 and 8

$$\Rightarrow 7x2 \text{ is divisible by } 8 \text{ if } x = 9$$

$$\Rightarrow 897359y792 \text{ is divisible by } 9 \text{ if } y = 4$$

$$\Rightarrow 3x - y$$

$$\Rightarrow 3 \times 9 - 4$$

$$\Rightarrow 27 - 4$$

$$\Rightarrow 23$$

54. Answer: d

Explanation:

$$\Rightarrow x^2 - 3x - 1 = 0$$

Divided by x

$$\Rightarrow x - 3 - (1/x) = 0$$

$$\Rightarrow x - 1/x = 3$$

$$\Rightarrow x^2 + 1/x^2 = 3^2 + 2 = 11$$

$$\Rightarrow (x^2 + 8x - 1)(x^3 + x^{-1})^{-1}$$

$$\Rightarrow \frac{x^2 + 8x - 1}{x^3 + \frac{1}{x}}$$

Divided by x

$$\Rightarrow \frac{x + 8 - \frac{1}{x}}{x^2 + \frac{1}{x^2}}$$

$$\Rightarrow (3 + 8)/11 = 1$$

55. Answer: a

Explanation:

Let the number of students in section B be x number of students in section A = $x + 10$

According to the question

$$\Rightarrow x + 10 x = 110$$

$$\Rightarrow x = 50$$

Number of students in section A = 60

Number of students in section B = 50

Sum of score of all students = $110 \times 72 = 7920$

Let the average score of students in section A be x .

Average score of students in section B = $x \times [120/100] = 1.2x$

According to the question

$$60x + 50 \times 1.2x = 7920$$

$$\Rightarrow 60x + 60x = 7920$$

$$\Rightarrow x = 7920/120 = 66$$

$\therefore$ Average score of students of section A = 66

56. Answer: a

Explanation:

We can write, $20\% = 1/5$, $25\% = 1/4$

Ratio of A to B = 4 : 5 ----- 1

Ratio of C to D = 6 : 5 ----- 2

Ratio of A to D = 4 : 3 ----- 3

Multiply by 6 in equation (1) and equation (3) and multiply by 2

Ratio of A : B : C : D = 20 : 25 : 18 : 15

$\Rightarrow C : B = 18 : 25$

$\Rightarrow C = 18/25 B$

$\Rightarrow C = 0.72B$

57. Answer: d

Explanation:

Sides of triangle are 50 m, 70 m and 80 m

$\Rightarrow S = (50 + 70 + 80)/2 = 200/2 = 100 \text{ cm}$

As we know,

Area of triangle = $\sqrt{[s(s-a)(s-b)(s-c)]} = \sqrt{(100 \times 50 \times 30 \times 20)} = 1000\sqrt{3}$

Given, Area of triangle whose each side is x m is equal to area of another triangle.

According to the question

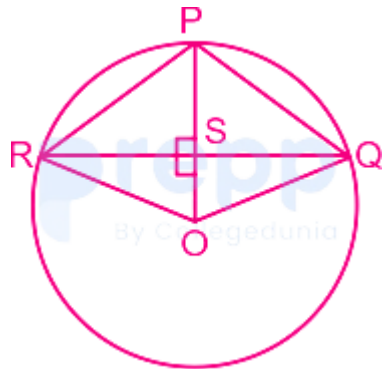
$\Rightarrow \sqrt{3x^2}/4 = 1000\sqrt{3}$

$\Rightarrow x^2 = 4000$

$\Rightarrow x = 20\sqrt{10} = 20 \times 3.16 = 63.2$

58. Answer: c

Explanation:



Given, $PQ = PR = 12$ cm and $OR = OQ = OP = 10$ cm

Suppose $SQ = RS = x$ cm and $OS = y$ cm

$PS = (10 - y)$

In $\triangle PRS$,

$RP^2 = PS^2 + RS^2$ [Using Pythagoras theorem]

$$12^2 = (10 - y)^2 + x^2$$

$$\Rightarrow 144 = 10^2 + y^2 - 2 \times 10 \times y + x^2$$

$$\Rightarrow 144 = 100 + y^2 - 20y + x^2 \quad \text{-----(1)}$$

In $\triangle RSO$,

$OR^2 = RS^2 + OS^2$ [Using Pythagoras theorem]

$$\Rightarrow 10^2 = x^2 + y^2$$

$$\Rightarrow 100 = x^2 + y^2 \quad \text{-----(2)}$$

Subtract equation (2) from equation (1)

$$144 - 100 = 100 + y^2 - 20y + x^2 - x^2 - y^2$$

$$\Rightarrow 20y = 56$$

$$\Rightarrow y = 14/5$$

From equation (2)

$$100 = x^2 + (14/5)^2$$

$$\Rightarrow x^2 = 100 - [196/25]$$

$$\Rightarrow x^2 = (2500 - 196)/25 = 2304/25$$

$$\Rightarrow x = 48/5$$

$$\Rightarrow 2x = 2 \times [48/5] = 96/5 = 19.2 \text{ cm}$$

$$\therefore RQ = 2x = 19.2 \text{ cm}$$

59. Answer: d

Explanation:

Given:

Time taken to cover a distance of 4 km upstream = 1 hour 20 minutes = $4/3$ hours

Time taken to cover a distance of 4 km downstream = 24 minutes

Concept Used:

The direction along the stream is called downstream.

The direction against the stream is called upstream.

Formula Used:

Distance = Speed $\times$ Times

Downstream speed of the boat = Speed of boat + Speed of stream

$$\Rightarrow D_s = x + y$$

Upstream speed of the boat = Speed of boat - Speed of stream

$$\Rightarrow U_s = x - y$$

Calculation:

Let Speed of boat in still water be x km/hr & speed of stream be y km/hr

According to the question,

$$\Rightarrow 4/(x - y) = 4/3$$

$$\Rightarrow x - y = 3 \quad \text{-----(1)}$$

$$\Rightarrow 4/(x + y) = 24/60$$

$$\Rightarrow x + y = 10 \quad \text{-----(2)}$$

Add equation (1) and equation (2) we get,

$$\Rightarrow 2x = 13$$

$$\Rightarrow x = 13/2 \text{ km/hr}$$

Time taken to row 13 km in still water = Distance covered/Speed of boat

$$\text{Time taken} = 13 \div 13/2 = 2 \text{ hrs}$$

$\therefore$ The time taken to row 13 km in still water is 2 hours.

60. Answer: c

Explanation:

Price of article are in the ratio = 4 : 5

According to the question

$$\Rightarrow \Rightarrow \frac{4 \times \frac{(100+x)}{100}}{5 \times \frac{(100-30)}{100}} = \frac{10}{7}$$

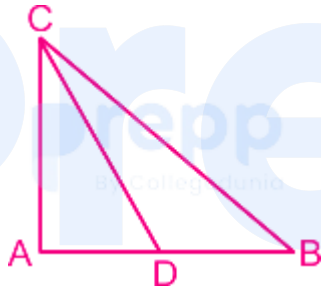
$$\Rightarrow \frac{4 \times (100+x)}{5 \times 70} = \frac{10}{7}$$

$$\Rightarrow (100+x) = 125$$

$$\Rightarrow x = 25\%$$

61. Answer: d

Explanation:



In $\triangle ABC$,

$$\Rightarrow (BC)^2 = (AC)^2 + (AB)^2 \text{ [Using Pythagoras theorem]}$$

$$\Rightarrow (10)^2 = 6^2 + AB^2$$

$$\Rightarrow AB = 8$$

In $\triangle ACD$,

$$\Rightarrow (CD)^2 = (AD)^2 + (AC)^2 \text{ [Using Pythagoras theorem]}$$

$$\Rightarrow CD^2 = 4^2 + 6^2$$

$$\Rightarrow CD = \sqrt{(16 + 36)} = \sqrt{52} = 2\sqrt{13} \text{ cm}$$

62. Answer: a

Explanation:

$$\Rightarrow (135\sqrt{5} x^3 - 2\sqrt{2} y^3) \div (3\sqrt{5} x - \sqrt{2} y)$$

As we know,

$$\Rightarrow (x^3 - y^3) = (x - y)(x^2 + y^2 + xy)$$

$$\Rightarrow (3\sqrt{5} x - \sqrt{2} y)(45x^2 + 2y^2 + 3\sqrt{10} xy) \div (3\sqrt{5} x - \sqrt{2} y)$$

$$\Rightarrow (45x^2 + 2y^2 + 3\sqrt{10} xy)$$

Comparing on $(Ax^2 + By^2 + \sqrt{10} Cxy)$

$$\Rightarrow A = 45, B = 2, C = 3$$

$$\Rightarrow A + B - 9C = 45 + 2 - 9 \times 3 = 20$$

63. Answer: d

Explanation:

Total production of type A cars in 2011 and type C cars and type E cars in 2012 = $69 + 45 + 61 = 175$ thousands

Total production of type B cars during 2010 to 2014 = $40 + 56 + 52 + 68 + 64 = 280$ thousands

$$\therefore \text{Required percentage} = [175/280] \times 100 = 62.5\%$$

64. Answer: c

Explanation:

Total production of type B cars in 2011 and type E cars in 2013 = $56 + 64 = 120$ thousands

Total production of type C cars in 2014 and type D cars in 2012 = $56 + 44 = 100$ thousands

$\therefore$ Required ratio = $120 : 100 = 6 : 5$

65. Answer: c

Explanation:

As we know,

Formula for installments in case of compound interest is $P = \frac{x}{(1 + r/100)} + \frac{x}{(1 + r/100)^2} \dots \frac{x}{(1 + r/100)^n}$

Given, (each installment) $x = 35,280$, $r = 5\%$, $n = 2$ and $P = ?$

$$P = \frac{x}{(1 + r/100)} + \frac{x}{(1 + r/100)^2}$$

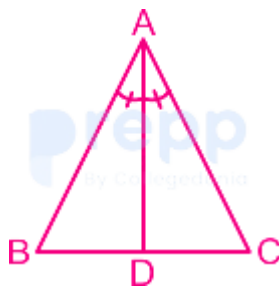
$$P = 35,280 / (1 + 5/100) + 35,280 / (1 + 5/100)^2$$

$$P = [35,280 \times (20/21)] + [35,280 \times (20/21) \times (20/21)]$$

$$P = 33,600 + 32,000 = 65,600$$

66. Answer: c

Explanation:



Given, $AB = c$, $AC = b$ and $BC = a$

Suppose $DC = x$

$$\Rightarrow BD = (a - x)$$

As we know,

$$\Rightarrow AB/BD = AC/DC$$

$$\Rightarrow \frac{c}{a-x} = \frac{b}{x}$$

$$\Rightarrow cx = ab - bx$$

$$\Rightarrow x(b + c) = ab$$

$$\Rightarrow x = ab/(b + c)$$

67. Answer: c

Explanation:

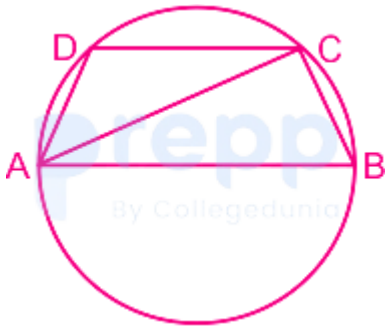
SP of the article = Rs. 492

MP of the article = Rs. 492 $\times$ $[100/82]$ = Rs. 600

CP of the article = Rs. 600 $\times$ $[100/120]$ = Rs. 500

68. Answer: b

Explanation:



Given, $\angle ADC = 130^\circ$

As we know,

$$\Rightarrow \angle ADC + \angle ABC = 180^\circ$$

$$\Rightarrow 130^\circ + \angle ABC = 180^\circ$$

$$\Rightarrow \angle ABC = 180^\circ - 130^\circ = 50^\circ$$

As we know,

$$\Rightarrow \angle ACB = 90^\circ$$

In $\triangle ABC$

$$\Rightarrow \angle ACB + \angle ABC + \angle BAC = 180^\circ$$

$$\Rightarrow \angle BAC = 180^\circ - 90^\circ - 50^\circ = 40^\circ$$

69. Answer: d

Explanation:

$$\Rightarrow 9a^2 + 4b^2 + c^2 + 21 = 4(3a + b - 2c)$$

$$\Rightarrow (3a)^2 + (2b)^2 + c^2 + 21 = 12a + 4b - 8c$$

$$\Rightarrow [(3a)^2 - 2 \times 3a \times 2 + 2^2] + [(2b)^2 - 2 \times 2b \times 1 + 1^2] + [c^2 + 2 \times c \times 4 + 4^2] = 0$$

$$\Rightarrow (3a - 2)^2 + (2b - 1)^2 + (c + 4)^2 = 0$$

$$\Rightarrow (3a - 2)^2 = 0$$

$$\Rightarrow a = 2/3$$

$$\Rightarrow (2b - 1)^2 = 0$$

$$\Rightarrow b = 1/2$$

$$\Rightarrow (c + 4)^2 = 0$$

$$\Rightarrow c = -4$$

$$\Rightarrow (9a + 4b - c)$$

$$\Rightarrow 9 \times (2/3) + 4 \times (1/2) - (-4)$$

$$\Rightarrow 6 + 2 + 4$$

$$\Rightarrow 12$$

70. **Answer: c**

Explanation:

A alone can finish the work in 48 days

A's one day work = $1/48$

A and B complete the whole work in = $11\frac{1}{3}$ days

A and B work on alternate days, with B beginning so, we can say B will work only 6 days A will work only $11\frac{1}{3} - 6 = 5\frac{1}{3}$ days

If A's one day work = $1/48$ of work A complete in = 1 days

$$\text{A's } 5\frac{1}{3} \text{ days work} = \frac{1}{48} \times 5\frac{1}{3} = \frac{1}{48} \times \frac{16}{3} = \frac{1}{9}$$

$$\text{Remaining work} = 1 - [1/9] = 8/9$$

B complete $8/9$ work in = 6 days

$$\Rightarrow B \text{ complete whole work in} = 6 \times [9/8] = 27/4 \text{ days}$$

$$\Rightarrow B \text{ alone can finish 4 times the same work in} = [27/4] \times 4 = 27 \text{ days}$$

71. Answer: c

Explanation:

$$\Rightarrow \left(\frac{\tan\theta - \sec\theta + 1}{\tan\theta + \sec\theta - 1} \right) \sec\theta = \frac{1}{k}$$

$$\Rightarrow \left[\frac{-(\sec\theta - \tan\theta) + (\sec^2\theta - \tan^2\theta)}{\tan\theta + \sec\theta - 1} \right] \sec\theta = \frac{1}{k}$$

$$\Rightarrow \left[\frac{-(\sec\theta - \tan\theta) + (\sec\theta - \tan\theta)(\sec\theta + \tan\theta)}{\tan\theta + \sec\theta - 1} \right] \sec\theta = \frac{1}{k}$$

$$\Rightarrow \left[\frac{(\sec\theta - \tan\theta) \{ (-1) + \sec\theta + \tan\theta \}}{\tan\theta + \sec\theta - 1} \right] \sec\theta = \frac{1}{k}$$

$$\Rightarrow (\sec\theta - \tan\theta) \sec\theta = 1/k$$

$$\Rightarrow [(1/\cos\theta) - (\sin\theta/\cos\theta)] \times [1/\cos\theta] = 1/k$$

$$\Rightarrow (1 - \sin\theta)/\cos^2\theta = 1/k$$

$$\Rightarrow (1 - \sin\theta) / (1 - \sin^2\theta) = 1/k$$

$$\Rightarrow [(1 - \sin\theta)] / [(1 - \sin\theta)(1 + \sin\theta)] = 1/k$$

$$\Rightarrow 1/(1 + \sin\theta) = 1/k$$

$$\Rightarrow k = 1 + \sin\theta$$

72. Answer: d

Explanation:

$$\sin \theta = \frac{\text{Perpendicular}}{\text{Hypotenuse}} = \frac{a}{\sqrt{a^2 + b^2}}$$

Using Pythagoras theorem

$$\Rightarrow (\text{Hypotenuse})^2 = (\text{Base})^2 + (\text{Perpendicular})^2$$

$$\Rightarrow (\sqrt{a^2 + b^2})^2 = (\text{Base})^2 + a^2$$

$$\Rightarrow \text{Base} = \sqrt{a^2 + b^2 - a^2} = b$$

$$\Rightarrow \sec \theta = \frac{\text{Hypotenuse}}{\text{Base}} = \frac{\sqrt{a^2 + b^2}}{b}$$

$$\Rightarrow \tan \theta = \text{Perpendicular} / \text{Base} = a/b$$

$$\Rightarrow \sec \theta + \tan \theta$$

$$\Rightarrow \frac{\sqrt{a^2 + b^2}}{b} + \frac{a}{b}$$

$$\Rightarrow \frac{\sqrt{a^2 + b^2} + a}{b}$$

73. Answer: b

Explanation:

Follow BODMAS rule to solve this question, as per the order given below :

Step-1 : Parts of an equation enclosed in 'Brackets' must be solved first, and in the bracket,

Step-2 : Any mathematical 'Of' or 'Exponent' must be solved next,

Step-3 : Next, the parts of the equation that contain 'Division' and 'Multiplication' are calculated,

Step-4 : Last but not least, the parts of the equation that contain 'Addition' and 'Subtraction' should be calculated.

$$\Rightarrow 7\frac{1}{2} \times \left(3\frac{1}{5} \div 5\frac{1}{3} \text{ of } 4\frac{1}{2}\right) + \left[11 - \left(\frac{5}{8} + 3 - 1\frac{1}{4}\right)\right] \div 5\frac{3}{4} - 5 \div 5 \times 5 \text{ of } 5 \div 25$$

$$\Rightarrow \frac{15}{2} \times \left(\frac{16}{5} \div \frac{16}{3} \times \frac{9}{2}\right) + \left[11 - \left(\frac{5}{8} + 3 - \frac{5}{4}\right)\right] \div \frac{23}{4} - 5 \div 5 \times 1$$

$$\Rightarrow \frac{15}{2} \times \frac{2}{15} + \left[11 - \frac{19}{8} \right] \div \frac{23}{4} - 1$$

$$\Rightarrow 1 + \frac{69}{8} \times \frac{4}{23} - 1$$

$$\Rightarrow 1 + (3/2) - 1 = 3/2$$

$$\Rightarrow 1\frac{1}{2}$$

74. Answer: c

Explanation:

$$\Rightarrow \cos^2 \theta - 3\cos \theta + 2 = \sin^2 \theta$$

$$\Rightarrow \cos^2 \theta - 3\cos \theta + 2 = 1 - \cos^2 \theta$$

$$\Rightarrow 2\cos^2 \theta - 3\cos \theta + 1 = 0$$

$$\Rightarrow 2\cos^2 \theta - 2\cos \theta - \cos \theta + 1 = 0$$

$$\Rightarrow 2\cos \theta (\cos \theta - 1) - 1 (\cos \theta - 1) = 0$$

$$\Rightarrow (2\cos \theta - 1) (\cos \theta - 1) = 0$$

$$\Rightarrow 2\cos \theta - 1 = 0$$

$$\Rightarrow \theta = 60^\circ$$

$$\Rightarrow \cos \theta = 1$$

$$\Rightarrow \cos \theta = \cos 0^\circ$$

$$\Rightarrow \theta = 0^\circ \quad (\because 0^\circ < \theta < 90^\circ)$$

$$2\operatorname{cosec} \theta + 4\cot \theta$$

$$\Rightarrow 2\operatorname{cosec} 60^\circ + 4 \cot 60^\circ$$

$$\Rightarrow 2 \times (2/\sqrt{3}) + 4 \times (1/\sqrt{3})$$

$$\Rightarrow [4/\sqrt{3}] + [4/\sqrt{3}]$$

$$\Rightarrow 8/\sqrt{3}$$

$$\Rightarrow 8\sqrt{3}/3$$

75. Answer: d

Explanation:

Total production of type C cars = $54 + 55 + 45 + 60 + 56 = 270$ thousands

Production of type C cars in 2012 = 45 thousands

270 thousands represents = 360°

45 thousands will represent = $[360^\circ/270] \times 45 = 60^\circ$

76. Answer: b

Explanation:

Option 2 is the correct solution.

'look beautiful' contains grammatical error. It should be 'looks beautiful' its more appropriate.

77. Answer: c

Explanation:

Option 3 is the correct solution.

'bristel' is the wrongly spelt word. 'bristle' is the correct word.

78. Answer: c

Explanation:

Option 3 is the correct solution.

The correct order is **BACD**. 'B' is an independent sentence so it should be first. 'A' talks about what the United States produces. 'C' says about its overall development therefore 'C' should come after mentioning all its development. 'D' will come at last.

79. Answer: a

Explanation:

The correct answer is option 1 i.e. broke up.

Break up means to separate something into smaller pieces.

Break out means to start suddenly

Break off means abruptly stop talking.

Break in means to interrupt or disturb; to enter by force.

Seeing this, it is clear that only option 1 fits the sentence meaningfully and according to the context.

80. Answer: d

Explanation:

Option 4 is the correct solution.

'Exempt' means free from an obligation or liability imposed on others. So, the nearest synonym for '**exempt**' would be '**exclude**'.

81. Answer: c

Explanation:

Option 3 is the correct solution.

Here, please says that it is an imperative sentence. So, in 'requested' is used. Option 1 is wrong because 'taking' is used which is inappropriate. Option 2 is wrong because it makes the sentence as a command. Option 4 is wrong because its formation of the sentence is wrong. So, the passive form of '**Please take the guest to his room on the 6th floor**'. would be '**You are requested to take the guest to his room on the 6th floor.**'

82. Answer: c

Explanation:

Option 3 is the correct solution.

'**On tenterhooks**' means in a state of suspense or agitation because of uncertainty about a future event. So, the most appropriate meaning of the given idiom would be 'anxious'.

83. Answer: d

Explanation:

Option 4 is the correct solution.

'impression' is the most appropriate word for the sentence: The company management is of the opinion that not wearing a suit and tie at the workplace could create a bad **impression** on clients.

'outlook' is a person's point of view.

'notion' is a conception about something.

'response' means a verbal or a written answer.

'impression' is an idea or feeling about something.

84. Answer: c

Explanation:

Option 3 is the correct solution.

'**swerve**' means an abrupt change in direction. So, the antonym of 'swerve' is 'straighten'.

85. Answer: b

Explanation:

Option 2 is the correct solution.

'lend an ear' means that you are listening to someone or paying attention to someone.

86. Answer: a

Explanation:

The correct antonym of the given word is 'agitated'.

★ Key Points

- Let us see the meanings of all the words given in the question-

Words	Meanings
Sober	serious, sensible, and solemn.
Agitated	feeling or appearing troubled or nervous.
Nervous	anxious or apprehensive.
Serious	Synonym of Sober
Calm	not showing or feeling nervousness, anger, or other strong emotions.

- A sensible person can never be troubled, so **Agitated** will be the antonym of **Sober**.

87. Answer: b

Explanation:

The correct answer is "**excessive**"

★ Key Points

- Let's see the meanings of the given words-
 - Rampant**- flourishing or spreading unchecked.
 - Limited**- small or controlled in number, amount, etc.
 - Excessive**- too much; too great or extreme
 - Rare**- not done, seen, happening, etc. very often
 - Gentle**- not strong, violent or extreme
- Hence, according to the meanings of the given words, the correct answer is Option 2.

88. Answer: a

Explanation:

Option 1 is the correct solution.

The correct order is 'CBAD'. 'C' is an independent sentence so it should be first. 'B' is the continuation of 'C'. 'A' also speaks about the same thing as B & C. 'D' is the last sentence.

89. Answer: c

Explanation:

Here the correct answer is **Casserole**.

★ Key Points

- A **casserole** is a kind of large, deep pan or bowl used for cooking a variety of dishes in the oven and as a serving vessel; it is also a category of foods cooked in such a vessel.
- So, 'casserole' is the most appropriate word for the group of words given.
- Thus, the correct answer is **Option 3**.

★ Additional Information

- Let's look at the **meaning** of other words given in options:
 - **Cauldron** – a large metal pot with a lid and handle, used for cooking over an open fire.
 - **Sauce-pan** – a deep cooking pan, typically round, made of metal, and with one long handle and a lid.
 - **Skillet** – a small metal cooking pot with a long handle, typically having legs.
-

90. Answer: a

Explanation:

Option 1 is the correct solution.

The correct formation of the sentence would be " We can't live without water, can we?". In the sentence, 'can't' is used so its question tag will be 'can'.

91. Answer: d

Explanation:

Option 4 is the correct solution.

Whenever we change it to an active form we use the order as '**subject+verb+object**'. The verb in the given sentence is 'arrange' but before it 'being' is used which suggests that it is in continuous tense. So, the active form of '**The chairs were being arranged in the examination hall by the staff**'. would be '**The staff was arranging the chairs in the examination hall**'.

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92. Answer: c

Explanation:

Option 3 is the correct solution.

' **wreath** ' is an arrangement of flowers, leaves, or stems fastened in a ring and used for decoration or for laying on a grave.

'garland' is an arrangement of flowers which is worn or hung as a decoration.

'bunch' is a number of things.

bouquet' is an arrangement of flowers that is given as a gift.

93. Answer: b

Explanation:

Option 2 is the correct solution.

'many' is used because 'revolts' which is plural is described and 'others' is used which means it is talking about the revolts.

94. Answer: a

Explanation:

Option 1 is the correct solution.

'noticable' is the wrongly spelt word. 'noticeable' is the correct word.

95. Answer: d

Explanation:

Option 4 is the correct answer.

★ Key Points

- The error lies in the last part of the sentence.
- 'from colours' is grammatically **wrong**.
- The preposition '**with**' meaning '**using**' is used to refer to **what we use to do something**.
 - **Example:** *They opened the package **with** a knife.*

- According to the context of the given sentence, the artist is *using colors to splash the walls*, therefore, the correct preposition to be used here would be 'with'.
- Hence, **option 4** is the correct answer.

Thus the sentence would read: *The Japanese artist Yoh Nagao was busy splashing the wall **with** colours.*

96. **Answer: c**

Explanation:

Option 3 is the correct solution.

'were' is used because 'revolts' is plural and sentence is in past tense.

97. **Answer: d**

Explanation:

Option 4 is the correct solution.

For the sentence given, 'such a long-distance' is the most appropriate option to substitute 'so long-distance'.

98. **Answer: b**

Explanation:

Option 2 is the correct solution.

'These' is used to indicate a movement and it is in plural.

99. Answer: a

Explanation:

Option 1 is the correct solution.

'disintegrate' is the appropriate word because it means breaking into many small pieces or troops because of an impact.

100. Answer: c

Explanation:

Option 3 is the correct solution.

'producer' means a person, country or company makes something.

'manufacturer' cannot be used here because we are talking about the country. Rest all words are not suited for the given sentence.

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