IB ACIO 2012-13 Solved Question Paper

1. DIRECTIONS: Arrange the following in a logical order:

(i) Weekly

(ii) Daily

(iii) Monthly

(iv) Fort nightly

(v) Bimonthly

A) (i) (iv), (iii), (ii), (v)
B) (ii), (i), (iv), (iii), (v)
C) (iv), (i), (ii), (iii), (v)
D) (v), (i), (ii), (iii), (iv)

Answer: B

Explanation:
Meaningful order of the words in ascending order is as follows
Daily → Weekly → Fortnightly → Monthly → Bimonthly

⇒ (ii), (i), (iv), (iii), (v)

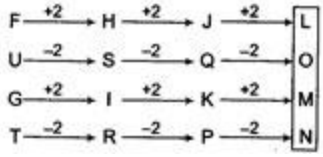
2. Find the next term in the given series below.

FUGT, HSIR, JQKP, ?

A) KNLO
B) LNNM
C) LOMM
D) LOMN

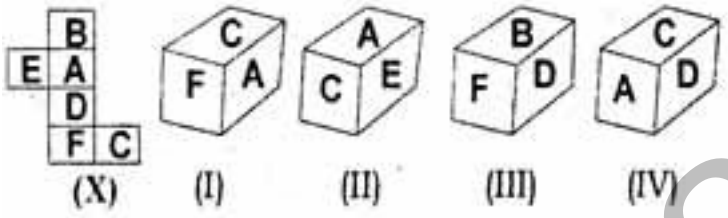
Answer: D

Explanation: The pattern is as follows



∴ ? = LOMN

3. DIRECTIONS: In the question below, select the related figure from the given alternatives.



A)I, II and IV only
B) I, II and III only
C) II only
D) IV only

Answer: D

4. Pointing to a woman in a photograph a man says: "She is the paternal grandmother of the son of my daughter-in-law's mother-in-law." How is the woman related to the man?

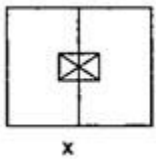
A) Mother
B) Mother-in-law
C) Sister
D) Wife

Answer: A

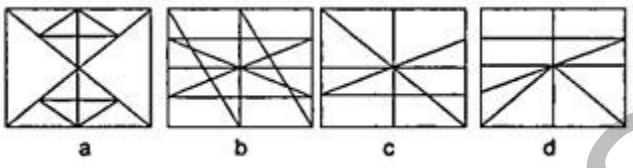
Explanation:
Daughter-in-law's mother-in-law = wife.
Son of wife = son. Grandmother of son = mother.

5. DIRECTIONS: From the given answer figures, select the one in which the question figure is embedded.

Question Figure:



Answer Figures:



A) a

B) b

C) c

D) d

Answer: B

6. How many triangles are there in the given figure?

A) 7

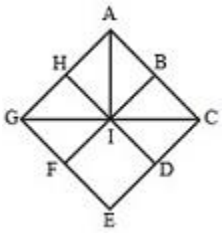
B) 10

C) 8

D) 9

Answer: B

Explanation:



The triangles are; AIH, AIB; BiC, CID GIH, GIF, ECG, ACG, AIG, AIC.

Thus, total 10 triangles are there.

7. DIRECTIONS: Find the related number from the given alternatives.
64 : ? :: 144 : 13

A) 8
B) 9
C) 16
D) 6

Answer: B

Explanation:

$x^2 : (x + 1)$
$8^2 : (8 + 1) :: 12^2 : (12 + 1)$

64 : 9 :: 144 : 13

8. DIRECTIONS :Study the following information carefully and answer the questions given below:

P, M, D, A, F, H, R and B are sitting around a circle facing at the centre. R is fourth to the right of A who is third to the right of P. M is second to the left of H who is second to the left of P. D is third to the right of B.

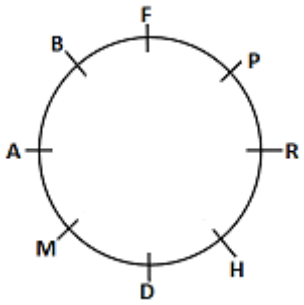
Who is the third to the left of H?

A) M
B) A
C) B
D) F

Answer: B

Explanation:

A is third to the left of H.



9. DIRECTIONS :Study the following information carefully and answer the questions given below:

P, M, D, A, F, H, R and B are sitting around a circle facing at the centre. R is fourth to the right of A who is third to the right of P. M is second to the left of H who is second to the left of P. D is third to the right of B.

Which of the following pairs represents the immediate neighbours of B?

A) FM

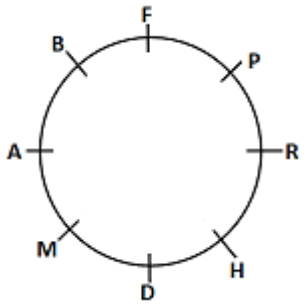
B) AP

C) MP

D) AF

Answer: D

Explanation:



F and A are immediate neighbours of B.

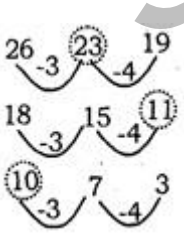
10. What will come in place of A, B and C respectively?

26	A	19
18	15	B
C	7	3

A) 23, 10, 11
B) 11, 23, 20
C) 23, 11, 10
D) 10, 11, 23

Answer: C

Explanation:



11. M is sister of D. R is brother of D. F is father of M and T is mother of R. How is D related to T?

A) Brother
B) Son
C) Daughter
D) Data inadequate.

Answer: D

Explanation:

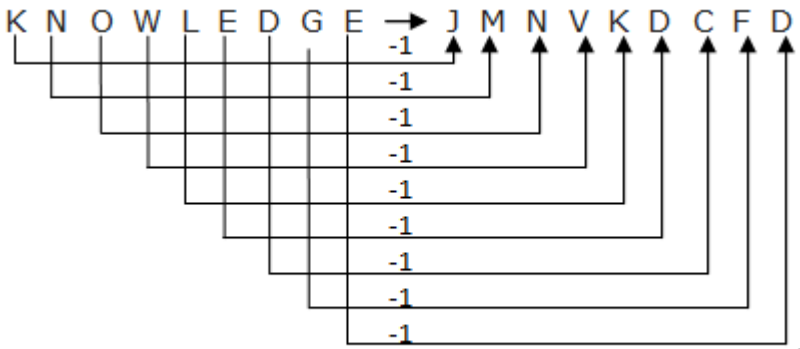
M is a female, R is a male and D is a sibling of both but the gender is not clear. Hence, we cannot say for certain if D is son or daughter of T.

12. If KNOWLEDGE is coded as JMNVKDCFD, then TELEVISION will be coded as _____

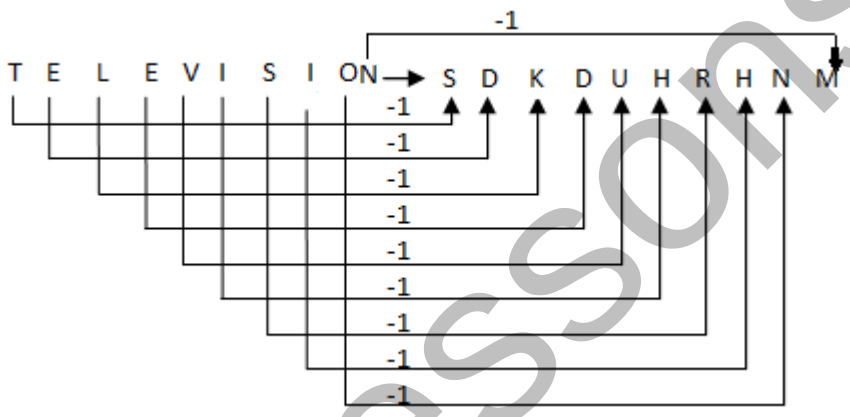
A) DSRNHMUKAL
B) SDKDUHRHNM
C) WMRMUHKDS
D) DHUNMBLMO

Answer: B

Explanation:

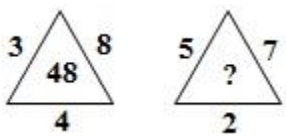


Similarly,



Each letter of the word KNOWLEDGE is moved one step backward to code it as JMNVKDCFD.

13. DIRECTIONS: Find out missing number from the following given options.



A) 27

B) 35

C) 54

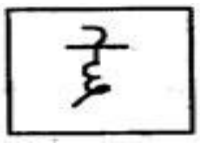
D) 64

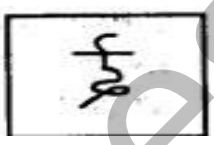
Answer: B

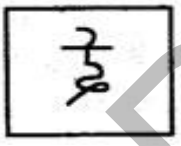
Explanation: Given that, (3×8×4) ÷ 2 = 48
So, Missing number = (5×7×2) ÷ 2 = 35

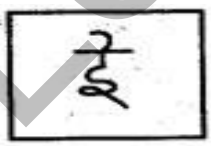
14. If a mirror is placed on the line MN, then which of the answer figures is the right image of the given figure?

Question figure:

A) 

B) 

C) 

D) 

Answer: C

15. DIRECTIONS: In the following question, some equations are solved on the basis of a certain system. On the same basis, find out the correct answer for the unsolved equation.

2 ×3 = 49, 5 x 6 = 2536, 1 × 9 = 181, 4 × 7 = ?

A) 1628

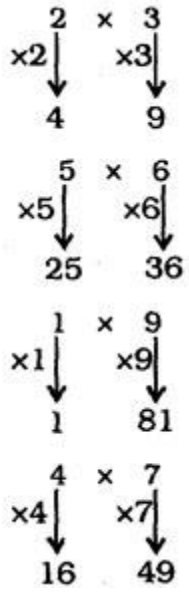
B) 1649

C) 2549

D) 1219

Answer: B

Explanation:



16. DIRECTIONS: Answer the following questions.

Ajay is positioned 8th from the left and admit is positioned 9th from the right in a row of 15 students. How many students are there in the row between Amit and Ajay?

A) 2

B) 1

C) 5

D) 0

Answer: D

Explanation:

If total number of students in the row is less than the sum of the position from both ends, then number of students between Ajay and Amit = (9+8)-15-2=0

17. How many pairs of letters are there in the word 'ADEQUATELY' each of which has as many letters between them in the word as in the alphabet?

A) one

B) two

C) three

D) four

Answer: C

Explanation:

Letters in the word	Letters in the alphabet
D E Q U A T Q U A T E L	D E Q R S T Q P O N M L

18. Aman walks 35 feet towards North, turns right and Walks 50 feet, turns right again and walks 65 feet. He then turns left and walks 30 feet. He turns left again walks 30 feet. Finally, he turns to his left to walk another 30 feet. In which direction is Aman from his starting point?

A) North

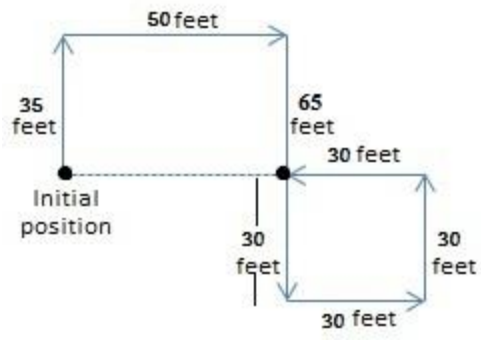
B) South – West

C) West

D) East

Answer: D

Explanation:



From the diagram it is clear that, A man is in east direction from the starting point.

19. Find the missing word in the given analogy:
Bird : Fly :: Snake : ?

A) Timid
B) Clatter
C) Crawl
D) Hole

Answer: C

Explanation:

Birds can fly while snakes crawl for movement.

20. 4 days before yesterday was Friday, then what day of the week will be day after tomorrow?

A) Monday
B) Friday
C) Saturday
D) Wednesday

Answer: B

Explanation:

4 days before yesterday = Friday.

∴ Yesterday = Friday + 4 = Tuesday.

∴ Today = Tuesday + 1 = Wednesday.

∴ Day after tomorrow = Wednesday + 2 = Friday.

21. In a certain code language, 24685 is written as 33776. How is 35791 written in that code?

A) 44826 B) 44882 C) 46682 D) 44682

Answer: C

Explanation:

Patter is:

2 + 1 = 3
4 - 1 = 3
6 + 1 = 7
8 - 1 = 7
5 + 1 = 6
24685 is written as 33776

Similarly,
35791 is written as 44882

22. Find the missing term in the given series.

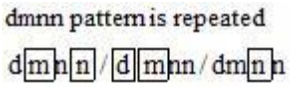
d _ n __ __ __ nndm _ n

A) ndmnm
B) mdnmn
C) mndmn

D) dmnnm

Answer: C

Explanation:



23. Find the missing term in a series given below:
6, 18, 3, 21, 7, 56, ?

A) 8

B) 9

C) 63

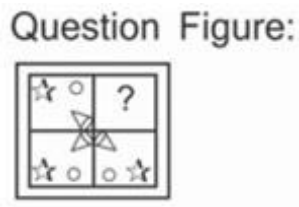
D) 64

Answer: A

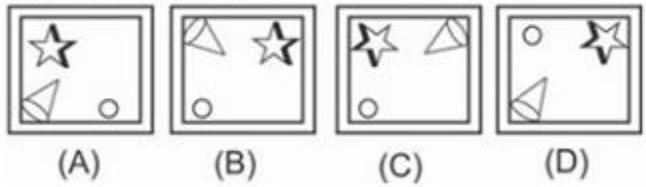
Explanation:

Each term at an even place in the series is the product of its two adjacent terms.Thus, if the missing term is x, then we have,
7x=56⇒x=56/7=8.

24. DIRECTIONS: Identify the answer figure that completes the pattern in the question figure.



Answer Figure:



A) A

B) B

C) C

D) D

Answer: D

25. Find the missing number in the given:
63 : 9 :: ? : 14

A) 68

B) 42

C) 96

D) 56

Answer: A

Explanation:

6+3=9 similarly 6+8=14.

26. Consider the group of atoms - O2-, F-, Ne, Na+

This group is an example of –

A) Isotopes

B) Isobars

C) Isotones

D) Isoelectronic

Answer: D

Explanation:

These atoms are having the same number of electrons. Hence they are isoelectronic.

27. Which of the following is the reason for the recent increase in the green cover in Sahel region of Africa?

A) Higher temperature leading to high rainfall

B) Lower temperature leading to low transpiration

C) Reduced grazing

D) None of these

Answer: A

Explanation:

The higher temperatures due to climate change has caused high evaporation and thus higher rainfall

28. Which layer of the atmosphere witnesses an increase in temperature with increase in height due to the absorption of X-rays and ultra-violet rays?

A) Stratosphere

B) Mesosphere

C) Thermosphere

D) Exosphere

Answer: C

Explanation:

In the thermosphere the temperature increases with the increase in height as the gas molecules present absorb the X-rays and the Ultraviolet radiations of the Sun

29. In which country is the anoxic basin Manager Fjord is found?

A) Denmark

B) Canada

C) Venezuela

D)Mexico

Answer: A

30. The Tropic of Cancer does not pass through:-

A) Bangladesh

B) Pakistan

C) Myanmar

D) Taiwan

Answer: B

31. In which year was the C.R. Formula proposed?.

A) 1940

B) 1942

C) 1944

D) 1946

Answer: C

Explanation: The Chakravarti Rajagopalachari Formula was proposed in the year 1944. It proposed to appoint a commission to demarcate the districts in North-West and East where Muslims were in majority.

32. Who had transferred to Sher Shah his father's jagir of Sasaram?

A) Sikandar Lodhi

B) Ibrahim Lodhi

C) Bahlol Lodhi

D) Babur

Answer: D

Explanation:

Sher Shah's father Hasan Khan was the jagirdar of Sasaram. Babur transferred his father's jagir to him.

33. Which of the following will be basic in nature?

A) Vitamin C Tablets

B) Vinegar

C) Colas

D) None of these

Answer: D

34. Which of the following city is situated on the banks of Gomati river?

A) Allahabad

B) Kanpur

C) Patna

D) Lucknow

Answer: D

35. Till which year was Ahmedabad the capital of Gujarat?

A) 1960

B) 1965

C) 1970

D) 1975

Answer: C

Explanation:

Ahmedabad was the capital of Gujarat from 1960 to 1970. The present capital is Gandhinagar

36. Who out of the following is related to the Chalukyas of Vatapi?

A) Shashanka

B) Jayasimha

C) Bhattarka

D) Pushyabhuti

Answer: B

37. Who was murdered by the Chapekar brothers?

A) Kingsford

B) Curzon Wyllie

C) Rand and Amherst

D) Jackson

Answer: C

38. What is the age of retirement for a member of State Public Service Commission?

A) 60 years

B) 62 years

C) 63 years

D) 65 years

Answer: B

39. Which of the following diseases is caused by an addition of autosomal chromosome in the 13th chromosome?
A) Down's Syndrome
B) Patau's Syndrome
C) Turner's Syndrome
D) Klinefelter Syndrome

Answer: B

40. Stefan's Law is related to the proportion of –

A) Energy and Time

B) Volume and Temperature

C) Energy and Temperature

D) Energy and Volume

Answer: C

41. Which of the following is the lowest point in Europe?

A) Caspian Sea

B) Atyrau Airport

C) Flevoland, Netherlands

D) Lammefjord, Denmark

Answer: A

42. Which Five-Year Plan had visualized "Faster and more Inclusive Growth" as its objective?

A) 9^{th}

B) 10^{th}

C) 11^{th}

D) 12^{th}

Answer: C

43. Which Schedule of the Indian Constitution consists of the provisions as to disqualification on ground of defection?

A) 7^{th}

B) 8^{th}

C) 9^{th}

D) 10^{th}

Answer: D

44. From which of the following countries were ideas of justice incorporated in the preamble of the Indian Constitution?

A) France

B) USSR

C) Australia

D) USA

Answer: B

45. Who is the author of the book "Freedom from Fear"?

A) Arundhati Rai

B) Aung San Suu Kyi

C) Shobha De

D) Kamalini Sengupta

Answer: B

46. In which year was the National Integration Council set-up?

A) 1960

B) 1961

C) 1962

D) 1963

Answer: C

47. Which of the following place had a Tantrik University established by the Pala dynasty?

A) Vikramasila

B) Taxila

C) Vaishali

D) Rajgir

Answer: A

48. What was the earlier name of the Bombay Stock Exchange?

A) Bombay Share Brokers' Association

B) Native Share Brokers' Bombay Association

C) Native Share Brokers' Association

D) Bombay Brokers' Association

Answer: A

49. Which of the following are correct related to Prokaryotes?

A) Size of cell is generally small

B) It contains single chromosome which is circular in shape

C) Both of the above

D) None of these

Answer: C

50. Which Constitutional Amendment had proposed for the establishment of a separate National Commission for Scheduled Tribes?

A) 88^{th}

B) 89^{th}

C) 90^{th}

D) 91^{st}

Answer: B

51. A beats B by 100 m in a race of 1200 m and B beats C by 200 m in race of 1600 m. Approximately by how many meters can A beat C in a race of 9600 m?

A) 1600 m

B) 1800 m

C) 1900 m

D) 2400 m

Answer: C

Explanation:

When A cover 1200 mtr. then B will cover 1100

Hence A will cover 1 mtr. then B will cover =11001200 mtr.

Similarly,

When B will cover 1 mtr. then C will cover = 14001600
When B will cover 11001200 then C will cover = 14001600×11001200
Hence when A will cover 1 mtr. then C will cover = 14001600×11001200
Hence A will cover 9600 mtr. then C will cover14001600×11001200×9600 = 7700 mtr.

Hence A beat C by = 9600 - 7700 = 1900 mtr.

52. 10 men can complete a work in 8 days. 20 women can complete the same work in 6 days. In how many days 16 men and 18 women can complete the same work, working together?

A) $2\frac{5}{7}$

B) $2\frac{6}{7}$

C) $3\frac{3}{7}$

D) $2\frac{3}{7}$

Answer: B

Explanation:

$10m \rightarrow 8$ days $\Rightarrow 20m \rightarrow 4$ days $\Rightarrow 1m \rightarrow 80$ days
$20w \rightarrow 6$ days $\Rightarrow 20w \rightarrow 6$ days $\Rightarrow 1w \rightarrow 120$ days
$\therefore 2m = 3w$
Thus, $16m + 18w = 24w + 18w = 42w$
$20w \times 6 = 42w \times x$
(Where x is the number of days taken by 42 women)
$\therefore x = \frac{20}{7}$ days $\Rightarrow 2\frac{6}{7}$ days

53. The depression angle of two boats to a 50 m high light house is 45°and 30°. If both boats are on the same side of the light house, then find the distance between the boats in metre.

A) 50√3

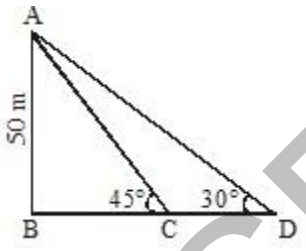
B) 50(√3+1)

C) 50(√3-1)

D) 50/√3

Answer: C

Explanation:



Let AB be light house and both boats are standing at C and D respectively.

In triangle ACB,

tan 45o=50BC
⇒ BC = 50 mtr. ..... (i)

In triangle ADB,

$\tan 30° = \frac{50}{BD} \Rightarrow BD = 50\sqrt{3} \Rightarrow BC + CD = 50\sqrt{3}$

$\Rightarrow CD = 50\sqrt{3} - 50 = 50\left(\sqrt{3} - 1\right)$ mtr. [From equ. (i)]

54. 25% of annual salary of A is equal to 80% of annual salary of B. Monthly salary of B is 40% of monthly salary of C. Annual salary of C is ₹6 lac. What is the monthly salary of A?

A) ₹56,000
B) ₹60,000
C) ₹62,000
D) ₹64,000

Answer: D

Explanation: Income of B =600000/12×40/100=20000 [Income of C = 6 lakhs]
25% of income of A = 20000×80/100=16000
Thus, income of A = ₹64000

55. The length of a chord of a circle is equal to the radius of the circle. The angle which subtends this chord on the longer segment of the circle is equal to:

A) 30^0

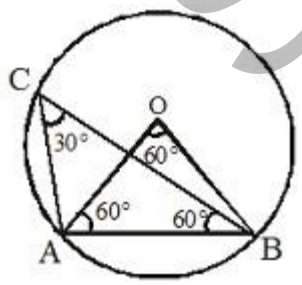
B) 45^0

C) 60^0

D) 90^0

Answer: A

Explanation:

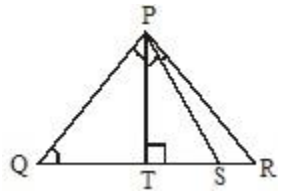


It is given that OA = OB = AB

∴ OAB is equilaterla so that ∠AOB = 60°

Hence ∠ACB = 30°

56. In △PQR, PS is the bisector of ∠P and PT ⊥ QR, then ∠TPS is equal to:



A) ∠Q + ∠R
B) 90+1/2∠Q
C) 90−1/2∠R
D) 12(∠Q−∠R)

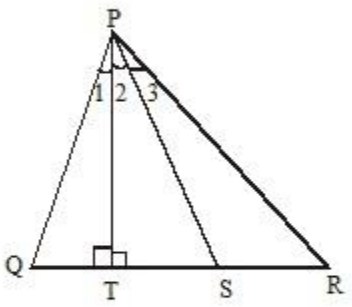
Answer: D

Explanation:

$\angle 1 + \angle 2 = \angle 3$ ..... (i)

$\angle Q = 90^0 - \angle 1$

$\angle R = 90^0 - \angle 2 - \angle 3$



So $\angle Q - \angle R = (90^0 - \angle 1) - (90^0 - \angle 2 - \angle 3)$

$\angle Q - \angle R = \angle 2 + \angle 3 - \angle 1$ from (i)

$= \angle 2 + (\angle 1 + \angle 2) - \angle 1 \Rightarrow \angle Q - \angle R = 2\angle 2$

$\Rightarrow \frac{1}{2}(\angle Q - \angle R) = \angle TPS$

57. LCM of $x^2 - 3x + 2$ and $x^3 - 2x^2 - 3x$ is:

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

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

C) $x (x-2) (x-3) (x^2-1)$

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

Answer: A

Explanation:

Here, $x^2 - 3x + 2 = (x - 2) (x - 1)$

$x^3 - 2x^2 - 3x = x (x^2 - 2x - 3)$

= x (x - 3) (x + 1)

∴ LCM = x (x - 1) (x + 1) (x - 2) (x - 3)
= x (x^2 - 1) (x - 2) (x -3)

58. A person had some sweets. If he distributes it among 25 children equally, then 8 sweets remains. If there were 28 children and on distributing it equally, 22 sweets would remain. Find the total number of sweets.

A) 359 B) 358 C) 300 D)200

Answer: B

Explanation: On checking it from options, we get that option (b) is the correct option.

As, 358 on dividing by 25, will give 8 as remainder.

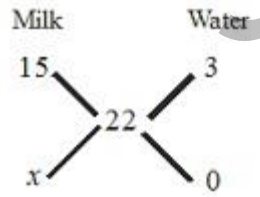
59. A milkman bought 15 kg of milk and mixed 3 kg of water in it. If the price per kg of the mixture becomes ₹22, what is the cost price of the milk per kg?

A) ₹28.00
B) ₹26.40
C) ₹24.00
D) ₹22.60

Answer: B

Explanation: Let milk cost ₹x per kg.

By alligation method



$$\therefore \frac{22-0}{x-22} = \frac{15}{3} \Rightarrow 22 = 5\ (x-22)$$

$$x = \frac{22 \times 6}{5} = \frac{132}{5} = 26.40$$

60. Rs. 5783 is divided among Sherry, Berry and Cherry in such a way that if Rs. 28, Rs. 37 and Rs. 18 be deducted from their respective shares, they have money in the ratio 4 : 6 : 9. Sherry's share is:

A) Rs. 1256
B) Rs. 1228
C) Rs. 1450
D) Rs. 1084

Answer: A

Explanation: Let their shares are 4x, 6x and 9x

Sheery's share = 4x + 28,

Berry's share = 6x + 37

and Cherry's share = 9x + 18 and then we have

(4x+28) + (6x+37) + (9x+18) = 5783

19x = 5783 - 83 = 5700

Hence x = 300

Hence, Sherry's shares is Rs.1228.

61. The perimeter of a triangle is 100 m and its sides are in the ratio of 1 : 2 : 2. The area of the triangle is:

A) $1000\sqrt{3}$ m^2
B) $1000\sqrt{15}$ m^2
C) $100\sqrt{15}$ m^2
D) $100\sqrt{7}$ m^2

Answer: C

Explanation:

Let the sides be x, $2x$ and $2x$
Then $x+2x+2x = 100$
or $x = 20$
$\therefore$ sides are 20, 40 and 40
and $s = 50$
area of triangle

$$=\sqrt{50\times(50-20)(50-40)(50-40)}$$

$$=\sqrt{50\times30\times10\times10}$$

$$=100\sqrt{15}\ m^2$$

61. The batting average of a batsman in 57 innings is 58 runs. He was out for a duck in 7 innings. His batting average for remaining innings is :

A) 60

B) 65.12

C) 66.12

D) 70.28

Answer: C

Explanation: Total runs of 57 innings = 57 x 58
$\therefore$ Average of remaining (57-7) or 50 innings
= (57×58)/50=66.12

62. An amount becomes ₹3795 in 3 years and ₹4537.50 in $7\frac{1}{2}$ years on simple interest. Find the rate of interest.

A) 6% per year
B) 4% per year
C) 4.5% per year
D) 5% per year

Answer: D

Explanation: Let the principal be P and rate be r%.

From question,

$$P\left(1+\frac{rT_1}{100}\right)=3795$$

$$\text{or } P\left(1+\frac{r\times 3}{100}\right)=3795 \ldots.(i)$$

$$\text{Also, } P\left(1+\frac{rT_2}{100}\right)=4537.50$$

$$\text{or } P\left(1+\frac{15r}{200}\right)=4537.50 \ldots.(ii)$$

Dividing equ. (ii) by equ. (i),

$$\frac{1+\frac{15r}{200}}{1+\frac{3r}{100}}=\frac{4537.50}{3795} \Rightarrow \frac{200+15r}{200+6r}=1.195$$

$$200 + 15r = 1.195 \times 200 + 6 \times 1.195 \text{ or}$$
$$1.195 \times 200 - 200 = 15r - 7.170\ r$$

$$r=\frac{0.195\times 200}{7.83}\approx 5\%$$

63. If M% of x is y and N% of y is x, then:

A) M + N = 100
B) MN = 10000
C) M/N=100
D) N/M=100

Answer: B

Explanation:
M% of x = y
or M/100×x=y
or x/y=100/M ..... (i)

N% of y = x

or N/100×y=x
x/y=N/100 .....(ii)
from (i) and (ii)
100/M=N/100

MN = 10000

64. The product of the zeros of the polynomial at $x^3 - 6x^2 + 11x - 6$ is:

A) 11

B) -6

C) 1

D) 6

Answer: D

Explanation:

Given polynomial is $x^3 - 6x^2 + 11x - 6$.
$=-(-6)/1=6$

65. A and B starts a business with the investment of ₹42000 and ₹63000 respectively. After 4 months B withdraws from the business. At the end of a year, they get ₹9600 as total profit. Find the share of B.

A) ₹5600
B) ₹2800
C) ₹3200
D) ₹6400

Answer: A

Explanation: Ratio of investment of A & B = 42000 × 12 : 63000 × 4

= 2 : 1

Thus, the share of B = 1/3×9600=₹3200

66. 25% of annual salary of A is equal to 80% of annual salary of B. Monthly salary of B is 40% of monthly salary of C. Annual salary of C is ₹6 lac. What is the monthly salary of A?

A)₹56,000

B) ₹60,000

C) ₹62,000

D) ₹64,000

Answer: D

Explanation: Income of B =600000/12×40/100=20000 [Income of C = 6 lakhs]
25% of income of A = 20000×80/100=16000
Thus, income of A = ₹64000

67. If a cone is cut into two parts by a horizontal plane passing through the mid point of its axis, the ratio of the volumes of the upper part and the frustum is:

A) 1: 1

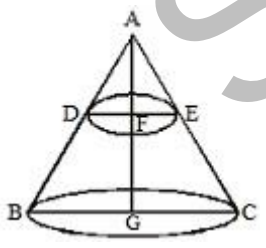
B) 1: 2

C) 1: 3

D) 1: 7

Answer: D

Explanation:



Let AG = h, AF

GC = R, EF = R/2

$$\frac{\text{Volume of Upper Part cone}}{\text{Volume of frustum}} = \frac{\frac{1}{3}\pi\left(\frac{R}{2}\right)^2\frac{h}{2}}{\left(\frac{1}{3}\pi R^2 h - \frac{1}{3}\pi\left(\frac{R}{2}\right)^2\frac{h}{2}\right)}$$

1/24 πR^2 h=1:7

Π h 7/24 R^2

68. A beats B by 100 m in a race of 1200 m and B beats C by 200 m in race of 1600 m. approximately by how many meres can A beat C in a race of 9600 m?

A) 1600 m
B) 1800 m
C) 1900 m
D) 2400 m

Answer: C

Explanation:

When A cover 1200 mtr. then B will cover 1100

Hence A will cover 1 mtr. then B will cover =1100/1200 mtr.

Similarly,

When B will cover 1 mtr. then C will cover = 1400/1600
When B will cover 1100/1200 then C will cover = 1400/1600×1100/1200
Hence when A will cover 1 mtr. then C will cover = 1400/1600×1100/1200
Hence A will cover 9600 mtr. then C will cover 1400/1600×1100/1200×9600 = 7700 mtr.

Hence A beat C by = 9600 - 7700 = 1900 mtr.

69. Simplified value of $(1.25)^3 - 2.25\ (1.25)^2 + 3.75\ (0.75)^2 - (0.75)^3$ is:

A) 1

B) ½

C) ¼

D) 1/8

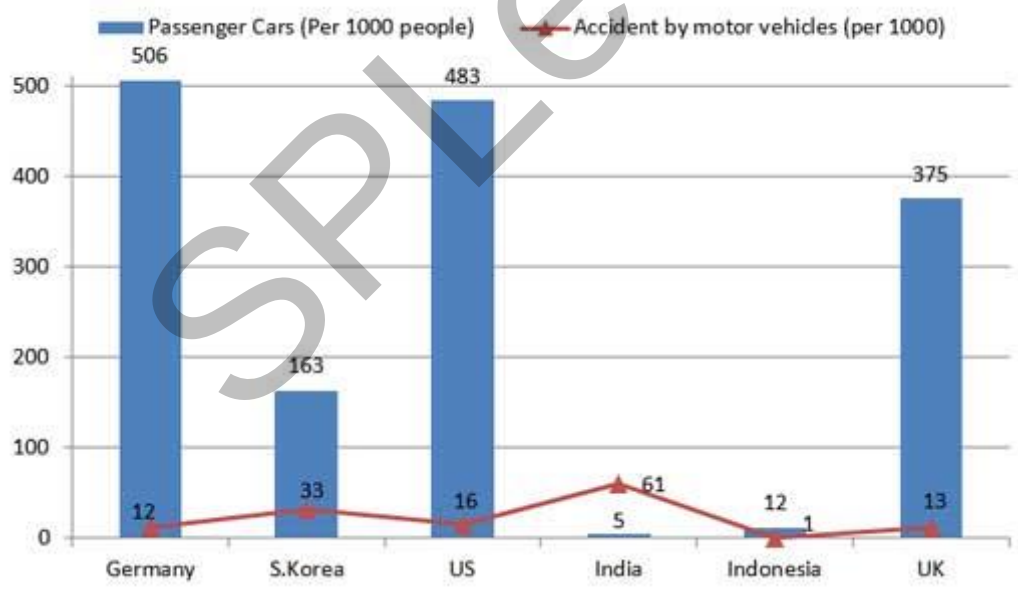
Answer: D

Explanation: Write 1.25 = x, 0.75 = y

given expression

$= (1.25)^3 - 2.25(1.25)^2 + 3.75\ (0.75)^2 - (0.75)^3$
$= (1.25)^3 - 3 \times 0.75\ (1.25)^2 + 3 \times 1.25\ (0.75)^2 - (0.75)^3$
$= x^3 - 3x^2y + 3x^2y - y^3$
$= (x - y)^3 = (1.25 - 0.75)^3$
$= (0.50)^3 = 0.125$
= 125/1000=1/8

70. DIRECTIONS: Study the following graph carefully to answer the question given below?



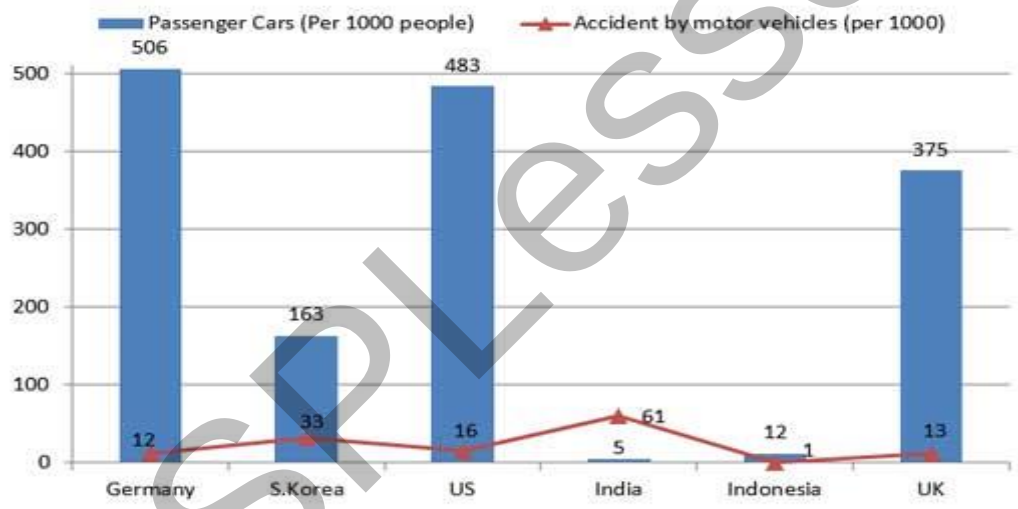
Total motor vehicle accidents in UK is what times of that passenger cars of Germany

A) 83.43%
B) 38.92%
C) 1.34%
D) Data inadequate

Answer: D

Explanation: Data inadequate

71. DIRECTIONS: Study the following graph carefully to answer the question given below?



What is the ratio of total passenger cars per thousand and the total motor vehicle accident per thousand of all the given countries?

A) 17 : 193
B) 15 : 1
C) 193 : 17
D) 1 : 15

Answer: C

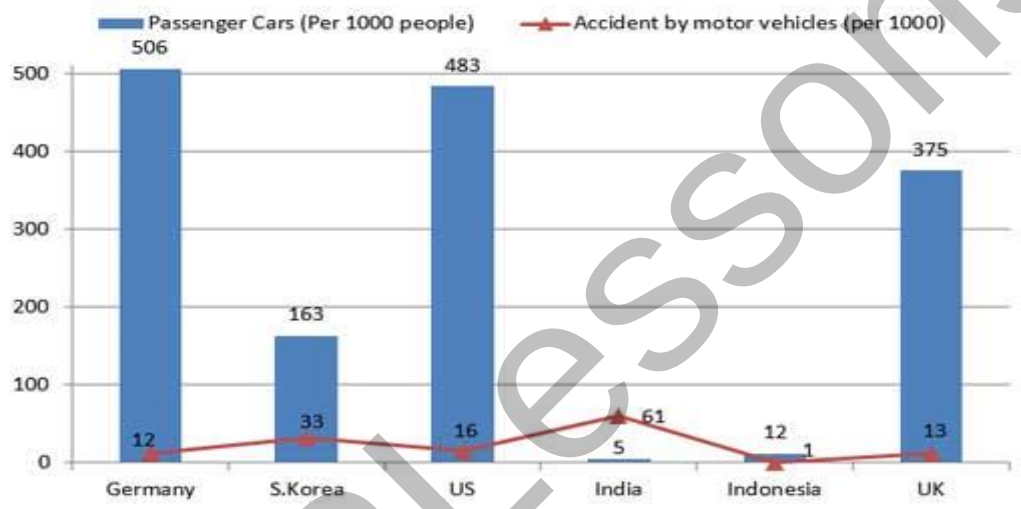
Explanation: Total passenger cars = 506 + 163 + 483 + 5 + 12 + 375 = 1544

Total motor vehicle accidents

= 12 + 33 + 16 + 61 + 1 + 13 = 136

∴ Ratio = 1544 : 136 = 193 : 17

72. DIRECTIONS: Study the following graph carefully to answer the question given below?



If the population of Indonesia is 40 crore, than total number of cars is what times of total number of motor vehicle accidents?

A) 10
B) 100
C) 12
D) Data inadequate

Answer: C

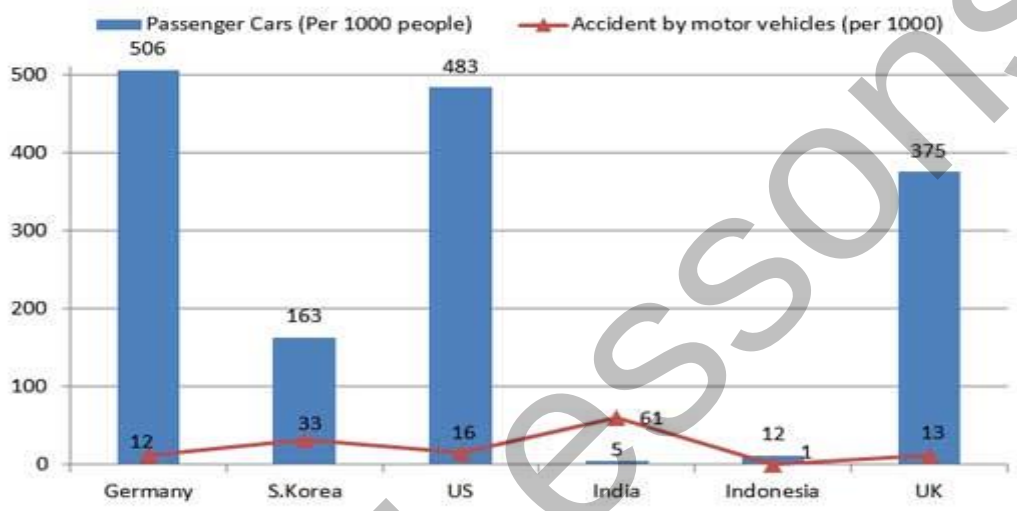
Explanation: Total number of cars in Indonesia = (40,0000000)/1000 × 12
= 400,000 × 12 = 48 Lakh

Total accident by motor vesicle in Indonesia = (40,0000000)/1000

= 4,00,000= 4 Lakh

∴ Required Answer = 48/4 = 12

73. DIRECTIONS: Study the following graph carefully to answer the question given below?



Assuming the number of the cars as the number of motor vehicles itself. The motor vehicles accidents is what percentage of passenger cars in US if total population of US is 70 crore?

A) 33.31%
B) 1.60%
C) 6.25%
D) 16%

Answer: B

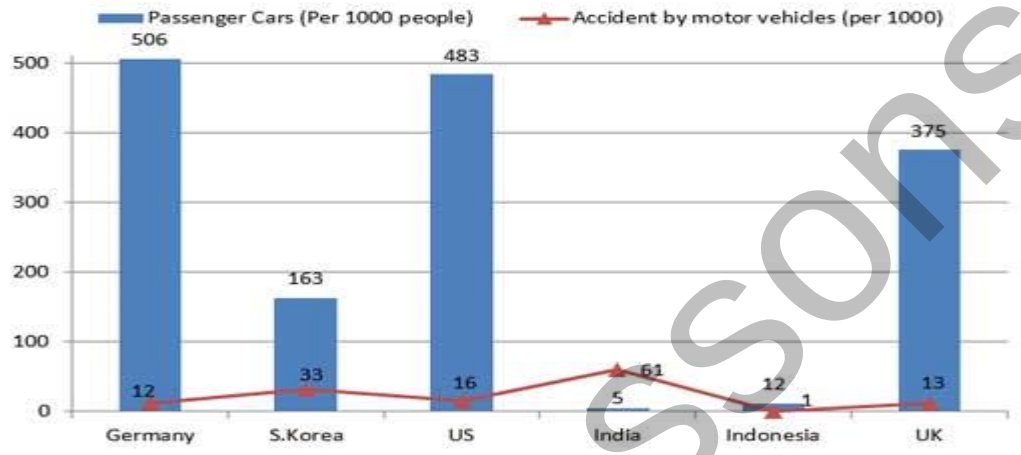
Explanation: Total number of passenger cars = Number of motor vehicles
7000000001/000×483 = 338100000

Total number of motor vehicles accidents

338100000/1000×16 =5409600
∴ percent = 5409600/338100000×100

= 1.60%

74. DIRECTIONS: Study the following graph carefully to answer the question given below?



In how many countries the per thousand motor vehicle accidents is higher than the average of accidents per thousand motor vehicles in all countries?

A) 1

B) 2

C) 4

D) 5

Answer: B

Explanation: Average of the accidents of motor vehicle per thousand
= 1/6 (12+33+61+16+1+13) = 22.66

in S. Korea and India, motor vehicle accidents per thousand is higher than average.

75. If A+B+C = 180°, then find the value of cotA. cotB + cot B. cotC + cotC.cotA .

A) π/2

B) π

C) 1

D) 0

Answer: C

Explanation: Given that:

$A+B+C = 180° \Rightarrow A+B = 180° - C$

$\Rightarrow \cot(A+B) = \cot(180° - C)$

$\Rightarrow \frac{\cot A.\cot B - 1}{\cot A + \cot B} = -\cot C$

$\Rightarrow \cot A.\cot B - 1 = -\cot C.\cot A - \cot C.\cot B$

$\Rightarrow \cot A.\cot B + \cot B.\cot C + \cot C.\cot A = 1$

76. DIRECTIONS: In the following questions choose the correct indirect form of given sentence

The teacher said to the Mahesh, "congratulations! Wish you success in life".

A) The teacher congratulated Mahesh and said wish you success in life.

B) The teacher wished congratulations and success in life to Mahesh.

C) The teacher said congratulations to Mahesh and wished him success in life.

D) The teacher congratulated Mahesh and wished him success in life.

Answer: D

77. DIRECTIONS: Read the following passage carefully and then answer the questions that are based on what is stated or implied in the passage.

Many years ago, through interview, questionnaires and the reminiscences of outstanding creative thinkers, Graham Wallas studied the steps involved in their thinking. He found that though there were individual differences in the ways these creative people thought, there was a recurring pattern. One way of looking at creative thinking is that it proceeds in five stages preparation, incubation, illumination, evaluation and revision. A good modern-day example of creative thinking, in which these stages can be found, is the account of the

discovery of the structure of the genetic molecule, deoxyribonucleic acid (DNA) by Watson and Crick. Watson described this discovery in his book, "The Double Helix".

In stage (a), preparation, the thinker formulates the problem and collects the facts and materials considered necessary for the new solution. Very frequently the creative thinker, like Watson, finds that the problem cannot be solved after days, weeks or months of concentrated effort. Failing to solve the problem, the thinker either deliberately or involuntarily turns away from it, initiating stage (b), incubation. During this period some of the ideas that were interfering with the solution tend to fade. In addition, the creative thinker may have experiences that (although the thinker does not realise it at the time) provide clues to the solution. The unconscious thought processes involved in creative thinking are also at work during this period of incubation. If the thinker is lucky, stage (c), illumination, occurs with its "aha!" insight experience; an idea for the solution suddenly swells up into consciousness. Next, at stage (d), evaluation, the apparent solution is tested to see if it satisfactorily solves the problem. Frequently, the insight turns out to be unsatisfactory and the thinker is back at the beginning of the creative process. In other cases, the insight is generally satisfactory but needs some modifications or the solution of minor problems to be a really "good" new idea. Thus stage (e), revision, is reached.

The central theme of the passage is?

A) Detailing the thought processes of great thinkers.
B) Describing the steps involved in creative thinking.
C) Discussing how the brains of great thinkers function
D) Describing the discovery of the structure of the deoxyribonucleic acid (DNA) molecule by Watson and Crick.

Answer: B

78. DIRECTIONS: Read the following passage carefully and then answer the questions that are based on what is stated or implied in the passage.

Many years ago, through interview, questionnaires and the reminiscences of outstanding creative thinkers, Graham Wallas studied the steps involved in their thinking. He found that though there were individual differences in the ways these creative people thought, there was a recurring pattern. One way of looking at creative thinking is that it proceeds in five stages preparation, incubation, illumination, evaluation and revision. A good modern-day example of creative thinking, in which these stages can be found, is the account of the discovery of the structure of the genetic molecule, deoxyribonucleic acid (DNA) by Watson and Crick. Watson described this discovery in his book, "The Double Helix".

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The DNA molecule owes its discovery to?

A) The creative thinking of Watson and Crick.
B) Fortuitous discovery on the part of Watson.
C) The incubation phase of Watson's thinking.
D) The deliberate attempts made by the two discoverers to follow the thinking patterns of great creative thinkers.

Answer: A

79. Which of these is untrue according to the above passage?
A) There are five stages in which creative thinking proceeds.
B) Discovery of DNA involved the exercise of the creative thinking pattern.
C) Graham Wallas discovered that all outstanding creative thinkers thought exactly alike.
D) None of these.

Answer: C

80. From the above passage what happens in the "Incubation" stage of the creative thinking process?
A) The thinker receives divine premonition and is able to bode a solution to the vexing problem through this divine intervention.

B) The thinker mulls over the vexing problem from all angles and comes up with a solution to the problem.
C) The thinker deliberately or involuntarily turns away from the problem, though his unconscious thought process still actively pursues the issue.
D) The thinker neglects the problem in totality and moves on to another chore or problem.

Answer: C

81. Which of the following is true according to the above passage?

A) Strict adherence to the five-stage thinking process always results in success.
B) The incubation phase involves in luck on the thinker's part (only).
C) The evaluation stage is the shortest of all the stages in the creative thinking pattern.
D) None of these.

Answer: D

82. DIRECTIONS: In the following questions, a sentence has been given in Active/Passive Voice Out of the four alternatives suggested, select the one which best expresses the same sentence in Passive/Active.

Circumstances will oblige me to go

A) I will oblige the circumstances and go.
B) I shall be obliged to go by the circumstances.
C) Under the circumstances, I should go.
D) I shall be obliged by the circumstances to go.

Answer: B

83. DIRECTIONS: In the following questions, some of the sentences have errors and some have none. Find out which part of a sentence has an error: If there is no error, mark your answer as 'No error'.

When you didn't answer the phone,/ (a) I presumed you were out, so I didn't bother/ (b) leaving a message because I was in hurry/ (c) no error/(d)

A) a

B) b

C) c

D) d

Answer: C

Explanation: Replace ‘in hurry’ by ‘in a hurry’.

84. DIRECTIONS: In the following questions, some of the sentences have errors and some have none. Find out which part of a sentence has an error: lf there is no error, mark your answer as ‘No error’.

Jeanne – Marie Ronald once stated that people/ (a) who know how to employ themselves always find leisure moments/ (b) while those who do nothing are forever in a hurry/ (c) no error/(d)

A) a

B) b

C) c

D) d

Answer: D

85. DIRECTIONS: In the following questions, some of the sentences have errors and some have none. Find out which part of a sentence has an error: lf there is no error, mark your answer as ‘No error’.

It is a common perception/ (a) that the rich sometimes/ (b) despise poor/ (c) no error/(d)

A) a

B) b

C) c

D) d

Answer: C

Explanation: Replace’ poor’ by ‘the poor’.
'Poor' is an adjective. When an adjective is preceded by the article 'the', it becomes a class.
Eg : The rich should help the poor.
The strong should not look down upon the weak.

86. DIRECTIONS: Some of the sentences have errors and some have none. Find out which part of a sentence has an error and blacken the rectangle corresponding to the appropriate letter (a, b, c). If there is no error, mark option (d) as your answer.

Many a student (a)/have passed (b)/the I.I.T. examination. (c)/No error (d)

A) a

B) b

C) c

D) d

Answer: A

Explanation: 'has passed' must be used.
'Many a' -a large number of.

Eg: "many a good man has been destroyed by booze"

87. DIRECTIONS: A part of the sentence is underlined. Below are given alternatives to the underlined part at (a), (b) and (c) which may improve the sentence. Choose the correct alternative. In case no improvement is needed mark your answer as (d).

Along with success comes a <u>need</u> for wisdom.

A) Thought
B) thirst
C) reputation
D) No improvement

Answer: C

Explanation: Along with success comes a reputation for wisdom. -Euripides

88. DIRECTIONS: A part of the sentence is underlined. Below are given alternatives to the underlined part at (a), (b) and (c) which may improve the sentence. Choose the correct alternative. In case no improvement is needed mark your answer as (d).

A lot of bloodshed could have been <u>saved</u>, had the administration taken timely action.

A) Protected
B) prevented
C) eschewed
D) No improvement

Answer: B

Explanation: Prevent (verb) means to stop something from happening or someone from doing something.
Eg: Label your suitcases to prevent confusion.
His disability prevents him (from) driving.
Save (verb) means to keep safe or rescue (someone or something) from harm or danger.
Eg: "they brought him in to help save the club from bankruptcy"
Eschew (verb) means deliberately avoid using or abstain from.
Eg: "he appealed to the crowd to eschew violence"

89. DIRECTIONS: For each of the following sentences five alternatives are given. You are required to choose the correct meaning of the idioms given in bold in the sentences.

'Pakistan Occupied Kashmir' is a <u>bandit territory.</u>

A) area where anarchy prevails
B) fully democratic set up
C) aristocratic set up
D) egalitarian society
E) affluent society

Answer: A

Explanation: area where anarchy prevails
A geographical area where law enforcement is practically impossible, because all rules and laws are ignored or flouted, is called 'bandit territory'.

Eg: There are a certain number of bandit territories in the world where travellers are advised not to go.

90. DIRECTIONS: In the following questions, four alternatives are given for the Idiom/Phrase printed in italics. Choose the alternative which best expresses the meaning of the Idiom/Phrase.

The students is on the verge of breakdown.

A) on the brink of

B) at the outset of

C) in the midst of

D) at the risk of

Answer: A

Explanation: On the verge of is on the brink of break down

91. DIRECTIONS: The 1st and the last sentence/parts of the sentence are numbered 1 and 6. The rest of the sentences/sentence is split into four parts and named P, Q, R and S. These four parts are not given in their proper order. Read the sentences and find out which of the four combinations is correct

1. The popular Japanese national sport of sumo

P. a form of celebration

Q. can trace its roots back 2000 years.

R. to appease the gods

S. It began more as a ceremony than a sport,

A) RPSQ

B) PRQS

C) QSPR

D) QSRP

Answer: C

Explanation:

The Correct Sequence is:

1. The popular Japanese national sport of sumo
2. can trace its roots back 2000 years.
3. It began more as a ceremony than a sport,
4. a form of celebration
5. to appease the gods
6. and generate a good rice harvest.

92. DIRECTIONS: The 1st and the last sentence/parts of the sentence are numbered 1 and 6. The rest of the sentences/sentence is split into four parts and named P, Q, R and S. These four parts are not given in their proper order. Read the sentences and find out which of the four combinations is correct.

1.The ozone hole

P. in the stratosphere over the Antarctic

Q. is not technically a "hole"

R. but is actually a region of exceptionally depleted ozone

S. where no ozone is present

A) RPSQ

B) PRQS

C) QSPR

D) QSRP

Answer: D

93. Find the word which can be replaced for the given sentence.

Parts of a country behind the coast or a river's bank

A) Isthumus
B) Archipelago
C) Swamps
D) Hinterland

Answer: D

Explanation: Hinterland means the remote areas of a country away from the coast or the banks of major rivers.

94. Find the word which can be replaced for the given sentence.
Having superior or intellectual interests and taste
A) Elite
B) Sophisticated
C) Fastidious
D) Highbrow

Answer: D

Explanation: Highbrow means intellectual or rarefied in taste.

95. Find the word which can be replaced for the given sentence.

A place where Jews worship according to their religion.
A) Cathedral
B) Synagogue
C) Chapel
D) Demagogue

Answer: B

96. DIRECTIONS: In each of the following questions a word is given in bold followed by four options. Mark the one that is closest in meaning.

Abundant

A) Habitude
B) Rife
C) Pediatrics
D) Quiescence

Answer: B

Explanation: If something unpleasant is rife, it is very common or happens a lot, or of common occurrence, or widespread. For example 'Dysentery and malaria are rife in the refugee camps'.
Its synonyms would be widespread, general, common, universal, extensive, ubiquitous, global, omnipresent, etc
Hence, out of the given options it could be the only synonym of the word 'abundant'

97. DIRECTION: Find the antonyms of the given words.

Dearth

A) Extravagance
B) Scarcity
C) Abundance
D) Sufficiency

Answer: C

Explanation: Abundance
Dearth means shortage, so abundance would be its antonym

98. DIRECTION: Find the antonyms of the given words.

Overt

A) Deep

B) Shallow
C) Secret
D) Unwritten

Answer: C

Explanation: Secret
Overt means open and not concealed.

99. Directions: In the following questions, a group of four words are given in each question, out of which only one word is incorrectly spelt. Find the word that is incorrectly spelt.

Find the word that incorrectly spelt.

A) Combination
B) exageration
C) hallucination
D) admonition

Answer: B

Explanation: exageration
The correct spelling of the word is 'exaggeration'

100. Directions: In the following questions, a group of four words are given in each question, out of which only one word is incorrectly spelt. Find the word that is incorrectly spelt.

Find the word that incorrectly spelt.

A) Sacrosanct
B) sacrelege
C) sacred
D) sacrament

Answer: B

Explanation: sacrelege
The correct spelling of the word is 'sacrilege'