A close-up photograph of a hand holding a silver pen, writing on a document. The document is slightly out of focus, showing some text and lines. The background is a soft, blurred green and white, suggesting an outdoor setting with foliage.

# LIC AE PRELIMS MODEL PAPER 1



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1. Look at this series: 21, 9, 21, 11, 21, 13, 21, ... What number should come next?

- A. 14
- B. 15
- C. 21
- D. 23

Answer: B

**Explanation:** In this alternating repetition series, the random number 21 is interpolated every other number into an otherwise simple addition series that increases by 2, beginning with the number 9.

2. Look at this series: 58, 52, 46, 40, 34, ... What number should come next?

- A. 26
- B. 28
- C. 30
- D. 32

Answer: B

**Explanation:** This is a simple subtraction series. Each number is 6 less than the previous number. <sup>TM</sup>

3. In a code language QUEEN is written as OVCFL, then KING is written as

- A. IJLH
- B. MKOF
- C. PHIK
- D. FOKM

Answer: A

**Explanation:**

Alphabet Series - A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

The coding follows the rule -2, +1, -2, +1, etc.

That means  $Q - 2 = O$

$U + 1 = V$

$E - 2 = C$ , etc.

4. In a code language, BROKE is written as DOSFK, START is written as UQEMZ, then INDIA is written as

- A. KHDKG
- B. KKHDG
- C. DHGKK



D. KHGKD

Answer: B

Explanation:

Alphabet Series - A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

The coding follows the rule +2, -3, +4, -5, +6, etc.

That means  $B+2=D$

$R-3=O$

$O+4=S$ , et

**Direction (3 – 4):** Each of the following questions consists of five figures marked A, B, C, D and E called the Problem Figures followed by five other figures marked 1, 2, 3, 4 and 5 called the Answer Figures. Select a figure from amongst the Answer Figures which will continue the same series as established by the five Problem Figures

3. Select a figure from amongst the Answer Figures which will continue the same series as established by the five Problem Figures



(A) (B) (C) (D) (E)

- A. 1
- B. 2
- C. 3
- D. 4
- E. 5

Answer: D

Explanation:



(1) (2) (3) (4) (5)

In one step, the existing element enlarges and a new element appears inside this element. In the next step, the outer element is lost.



4. Select a figure from amongst the Answer Figures which will continue the same series as established by the five Problem Figures.

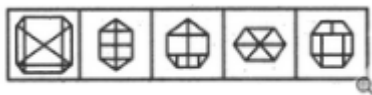


(A) (B) (C) (D) (E)

- A. 1
- B. 2
- C. 3
- D. 4
- E. 5

Answer: E

Explanation:



(1) (2) (3) (4) (5)

TM

The number of parts increases by one along with the number of sides in the figure

5. Kanmani ranked sixteenth from the top and twenty ninth from the bottom among those who passed an examination. Six boys did not participate in the competition and five failed in it. How many boys were there in the class?

- A. 35
- B. 45
- C. 50
- D. 55

Answer: D

Explanation:

Number of boys who passed =  $(15 + 1 + 28) = 44$

Total number of boys in the class =  $44 + 6 + 5 = 55$ .

6. Murugan is sixth from the left end and Prasanna is tenth from the right end in a row of boys. If there are eight boys between Murugan and Prasanna, how many boys are there in the row?

- A. 21
- B. 23
- C. 24
- D. 25





Answer: E

Explanation:

Clearly, number of boys in the row = ( 6 + 10 + 8 ) = 24.

7. \_ xx \_ yx \_ yy \_ xy \_ xxy

- A. xxxyy
- B. yxyxy
- C. yyxxy
- D. yyyxx

Answer: C

Explanation:

The series is yxxy/yxxy/yxxy/yxxy. Thus, the pattern 'yxxy' is repeated.

8. WXCD, UVEF, STGH, QRIJ,?

- A. OPKL
- B. AYBZ
- C. JIRQ
- D. LRMS



Answer: A

Explanation: Start reading from CD, EF, GH, IJ, KL and then QR, ST, UV, WX, YZ and so on after splitting the groups.

9. One evening just before sunset two friends Sanju and Manju were talking to each other face to face. If Manju's shadow was exactly to her left side, which direction was Sanju facing?

- A. North
- B. South
- C. West
- D. Data inadequate
- E. None of these

Answer: A

Explanation: In the evening as sun is in the west, so the shadows fall towards east. Now, since Manju's shadow fell towards right, therefore, Manju is facing south. So, Sanju standing face to face with Manju was facing north.

10. Odometer is to mileage as compass is to





- A. speed
- B. hiking
- C. needle
- D. direction

Answer: D

Explanation:

An odometer is an instrument used to measure mileage. A compass is an instrument used to determine direction. Choices a, b, and c are incorrect because none is an instrument.

**11. Marathon is to race as hibernation is to**

- A. winter
- B. bear
- C. dream
- D. sleep

Answer: D

Explanation: A marathon is a long race and hibernation is a lengthy period of sleep. The answer is not choice a or b because even though a bear and winter are related to hibernation, neither completes the analogy. (Choice c) is incorrect because sleep and dream are not synonymous.

**12. Pointing to a photograph of a boy Suresh said, "He is the son of the only son of my mother." How is Suresh related to that boy?**

- A. Brother
- B. Uncle
- C. Cousin
- D. Father

Answer: D

Explanation: The boy in the photograph is the only son of the son of Suresh's mother i.e., the son of Suresh. Hence, Suresh is the father of boy.

View Answer Discuss in Forum Workspace Report

**13. If  $A + B$  means A is the mother of B;  $A - B$  means A is the brother B;  $A \% B$  means A is the father of B and  $A \times B$  means A is the sister of B, which of the following shows that P is the maternal uncle of Q?**

- A.  $Q - N + M \times P$
- B.  $P + S \times N - Q$
- C.  $P - M + N \times Q$
- D.  $Q - S \% P$

Answer: C



**Explanation:**

P - M → P is the brother of M

M + N → M is the mother of N

N x Q → N is the sister of Q

Therefore, P is the maternal uncle of Q.

**DIRECTIONS (14 – 15):** A famous retail electronics showroom chain has six new mobile phone models - T, V, W, X, Y, and Z – each equipped with at least one of the following three options: digital camera, music player, and office document viewer. No mobile has any other option. The following conditions apply:

V features both a digital camera and an office document viewer.

W has digital camera and music player

W and Y have no options in common.

X has more options as compared to W

V and Z have exactly one option in common

T has fewer options as compared to Z.

**14. For exactly how many of the six mobile phones is it possible to determine exactly which option each one has?**

- A. Two
- B. Three
- C. Four
- D. Five
- E. Six

**Answer:** C

**Explanation:** It is clear from the table that it is possible to determine the option(C) of phones V, W, X and Y.

**15. Which one of the following must be false?**

- A. Exactly five mobile phones feature a music player.
- B. Exactly five mobile phones feature a document viewer.
- C. Exactly four mobile phones feature a music player.
- D. Exactly four mobile phones feature a digital camera.
- E. Exactly four mobile phones feature a document viewer.



Answer: A

Explanation: Three or four mobile phones feature a music player.

16. If Z has no option in common with T but has at least one option in common with every other mobile phone, then which one of the following must be false?

- A. T has digital camera
- B. Z has document viewer
- C. Exactly four of the six mobile phones have digital camera.
- D. Exactly four of the six mobile phones have document viewer.
- E. Exactly four of the six mobile phones have music player.

Answer: E

Explanation: Z must have the music player and the office document viewer while T must have the digital camera. So only 3 models have the music player

17. Choose the alternative which is closely resembles the mirror image of the given combination.

ANS43Q12

(1) ANS43Q12

(3) 2NAE40S1

(2) 21Q042NA

(4) 1SQ4EANS



- A. 1
- B. 2
- C. 3
- D. 4

Answer: B

18. Choose the alternative which is closely resembles the mirror image of the given combination.

TARAIN1014A

(1) A4101NIARAL

(3) A1014TARAIN

(2) A1014NIARAT

(4) A4101IARAT

- A. 1
- B. 2
- C. 3
- D. 4

Answer: D

18. Choose the alternative which is closely resembles the mirror image of the given combination



1965 INDOPAK

(1) KAPODI 2961

(3) KAPODI 2961

(2) KAPODI 2961

(4) KAPODI 2961

- A. 1
- B. 2
- C. 3
- D. 4

Answer: D

**19. How many times are the hands of a clock at right angle in a day?**

- A. 22
- B. 24
- C. 44
- D. 48

Answer: C

Explanation:

In 12 hours, they are at right angles 22 times.

In 24 hours, they are at right angles 44 times.

**20. How many times in a day, are the hands of a clock in straight line but opposite in direction?**

- A. 20
- B. 22
- C. 24
- D. 48

Answer: B

**Explanation:** The hands of a clock point in opposite directions (in the same straight line) 11 times in every 12 hours. (Because between 5 and 7 they point in opposite directions at 6 o'clock only). So, in a day, the hands point in the opposite directions 22 times.

**21. It was Sunday on Jan 1, 2006. What was the day of the week Jan 1, 2010?**

- A. Sunday
- B. Saturday
- C. Friday
- D. Wednesday

Answer: C

Explanation:



On 31st December, 2005 it was Saturday.

Number of odd days from the year 2006 to the year 2009 =  $(1 + 1 + 2 + 1) = 5$  days.

On 31st December 2009, it was Thursday.

This, on 1st Jan, 2010 it is Friday.

**22. What was the day of the week on 28th May, 2006?**

- A. Thursday
- B. Friday
- C. Saturday
- D. Sunday

Answer: D

**Explanation:**

28 May, 2006 = (2005 years + Period from 1.1.2006 to 28.5.2006)

Odd days in 1600 years = 0

Odd days in 400 years = 0

5 years = (4 ordinary years + 1 leap year) =  $(4 \times 1 + 1 \times 2) = 6$  odd days

Jan. Feb. March April May

$(31 + 28 + 31 + 30 + 28) = 148$  days

148 days = (21 weeks + 1 day) 1 odd day.

Total number of odd days =  $(0 + 0 + 6 + 1) = 7$  odd day.

Given day is Sunday.

**Directions (23 – 26):** The sheet of paper shown in the figure (X) given on the left hand side, in each problem, is folded to form a box. Choose from amongst the alternatives (1), (2), (3) and (4), the boxes that are similar to the box that will be formed.

**23. Choose the box that is similar to the box formed from the given sheet of paper (X).**





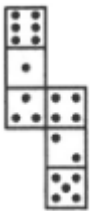
- A. 1 and 4 only
- B. 3 and 4 only
- C. 1 and 2 only
- D. 2 and 3 only

Answer: A

Explanation:

The fig. (X) is similar to the Form I. So, when the sheet shown in fig. (X) is folded to form a cube then one of the two half-shaded faces lies opposite to one of the blank faces and the other half-shaded face lies opposite to another blank face. The two remaining blank faces lie opposite to each other. Thus, both the cubes shown in figures (1).and (4) can be formed when the sheet shown in fig. (X) is folded. Also, though the cubes shown in figures (2) and (3) have faces that can appear adjacent to each other but the cube formed by folding the sheet in fig. (X) cannot be rotated to form either of the two. Hence, the cubes in figures (2) and (3) cannot be formed.

**24. How many dots lie opposite to the face having three dots, when the given figure is folded to form a cube?**



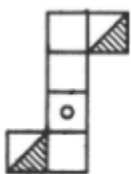
- A. 2
- B. 4
- C. 5
- D. 6

Answer: D

Explanation:

The given figure is similar to Form V. Therefore, when this figure is folded to form a cube then the face bearing six dots will lie opposite the face bearing three dots.

**25. Choose the box that is similar to the box formed from the given sheet of paper (X).**





- A. 1 and 3 only
- B. 1 and 4 only
- C. 2 and 4 only
- D. 3 and 4 only

Answer: A

Explanation:

The fig. (X) is similar to Form II. So, when the sheet shown in fig. (X) is folded to form a cube then the two half-shaded faces lie opposite to each other, the face bearing a circle lies opposite to one of the two blank faces and the two remaining blank faces lie opposite to each other. Therefore, the cubes shown in fig. (4) which has the two half-shaded faces adjacent to each other, cannot be formed by folding the sheet shown in fig. (X). Also, the cube shown in fig. (2) has the face bearing a circle adjacent to two blank faces. This is not possible since there is one blank face opposite to the circle and one blank face opposite to the third blank face. Hence, only the cubes in figures (1) and (3) can be formed.

26. Choose the box that is similar to the box formed from the given sheet of paper (X).



- A. 1 and 2 only
- B. 2 and 3 only
- C. 2 and 4 only
- D. 1, 2, 3 and 4

Answer: D

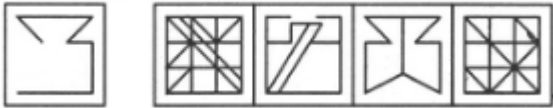
Explanation:

The fig. (X) is similar to Form II. So, when a cube is formed by folding the sheet shown in fig. (X), then the two half-shaded faces lie opposite to each other and one of the three blank faces appears opposite to the face bearing a dot. Clearly, each one of the four cubes shown in figures (1), (2), (3) and (4) can be formed by folding the sheet shown in fig. (X).

**Directions (27 – 30):** In each of the following questions, you are given a figure (X) followed by four alternative figures (1), (2), (3) and (4) such that figure (X) is embedded in one of them. Trace out the alternative figure which contains fig. (X) as its part.

27. Find out the alternative figure which contains figure (X) as its part.





(X) (A) (B) (C) (D)

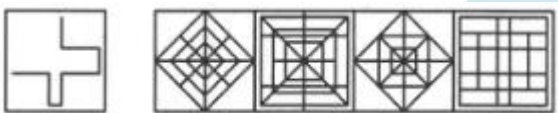
- A. 1
- B. 2
- C. 3
- D. 4

Answer: A

Explanation:



28. Find out the alternative figure which contains figure (X) as its part.

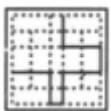


(X) (A) (B) (C) (D)

- A. 1
- B. 2
- C. 3
- D. 4

Answer: D

Explanation:



29. Find out the alternative figure which contains figure (X) as its part.



(X) (A) (B) (C) (D)

- A. 1



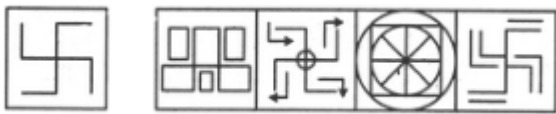
- B. 2
- C. 3
- D. 4

Answer: D

Explanation:



30. Find out the alternative figure which contains figure (X) as its part.



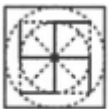
- (X)      (A)      (B)      (C)      (D)

- A. 1
- B. 2
- C. 3
- D. 4



Answer: C

Explanation:



31. One morning Udai and Vishal were talking to each other face to face at a crossing. If Vishal's shadow was exactly to the left of Udai, which direction was Udai facing?

- A. East
- B. West
- C. North
- D. South

Answer: C

Explanation:

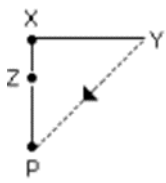


32. Y is in the East of X which is in the North of Z. If P is in the South of Z, then in which direction of Y, is P?

- A. North
- B. South
- C. South-East
- D. None of these

Answer: D

Explanation:



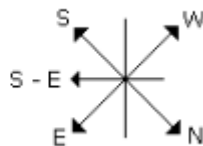
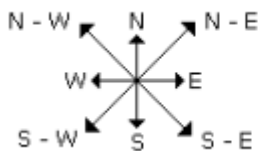
P is in South-West of Y.

33. If South-East becomes North, North-East becomes West and so on. What will West become?

- A. North-East
- B. North-West
- C. South-East
- D. South-West

Answer: C

Explanation:



It is clear from the diagrams that new name of West will become South-East..

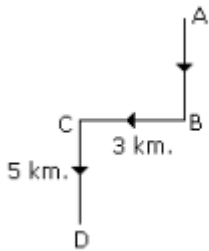
34. A man walks 5 km toward south and then turns to the right. After walking 3 km he turns to the left and walks 5 km. Now in which direction is he from the starting place?



- A. West
- B. South
- C. North-East
- D. South-West

Answer: D

Explanation:



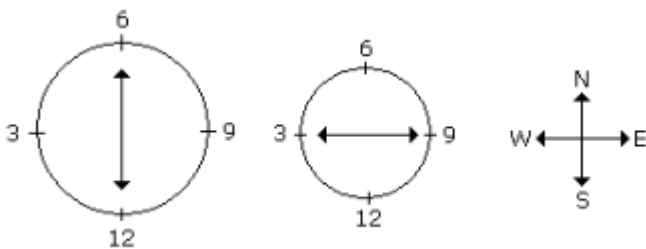
Hence required direction is South-West.

35. Rahul put his timepiece on the table in such a way that at 6 P.M. hour hand points to North. In which direction the minute hand will point at 9.15 P.M. ?

- A. South-East
- B. South
- C. North
- D. West

Answer: D

Explanation:



At 9.15 P.M., the minute hand will point towards west.

36. What is the difference in the place value of 5 in the numeral 754853?

- A. 49500
- B. 49950
- C. 45000
- D. 49940

Answer: B



**Explanation:**

The digit 5 has two place values in the numeral,  $5 * 105 = 50,000$  and  $5 * 101 = 50$

$\therefore$  Required difference =  $50000 - 50 = 49950$

**37. What should be added to 1459 so that it is exactly divisible by 12?**

- A. 4
- B. 3
- C. 5
- D. 6

**Answer:** C

**Explanation:**

On dividing 1459 by 12, the remainder is 7.

$\therefore$  The number to be added would be =  $12 - 7 = 5$

**38. 7X2 is a three digit number and X is the missing digit. If the number is divisible by 6, the missing digit is**

- A. 4
- B. 3
- C. 2
- D. 5

**Answer:** B

**Explanation:**

The given number is divisible by 6 so it would be divisible by 2 and 3. As the last digit is 2 whatever be the value of X, it would be divisible by 2.

Now,  $7+X+2 = 9 + X$ , must be divisible by 3.

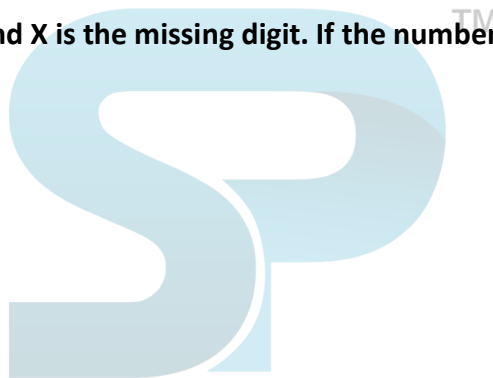
$\therefore X = 3$  makes the number divisible by 3, so 3 is the required digit.

**39. 40 % of 280 =?**

- A. 112
- B. 116
- C. 115
- D. 120

**Answer:** A

**Explanation:**





x % of a given number 'n' = Apti Percentage 30

x = 40 and n = 280

∴ 40 % of 280 = Apti Percentage 31 \* 280 = 112

**40. Whose 35% is 280?**

- A. 700
- B. 750
- C. 800
- D. 850

Answer: C

Explanation:

Let the required value is x.

As per question; 35% of x = 280

$$\therefore \frac{35}{100} * x = 280$$

$$X = \frac{280 * 100}{35} = 800$$

**41. 45 \*? = 35% of 900**

- A. 6
- B. 7
- C. 9
- D. 4

Answer: B

Explanation:

Let the missing value is x.

$$\therefore 45 * x = \frac{35}{100} * 900$$

$$45 x = 315$$

$$X = \frac{315}{45} = 7$$

**42. Find the missing term of the given expression:**

$$18.834 + 818.34 - ? = 618.43$$





- A. 217.644
- B. 218.744
- C. 217.744
- D. 217.844

Answer: b

Explanation:

$$18.834 + 818.34 - ? = 618.43$$

$$\text{Or, } 18.834 + 818.340 - 618.43 = ?$$

$$837.174 - 618.430 = 218.744$$

**43. What is the value of  $(25.732)^2 - (15.732)^2$ ?**

- A. 414.64
- B. 414.256
- C. 414.128
- D. 414.52

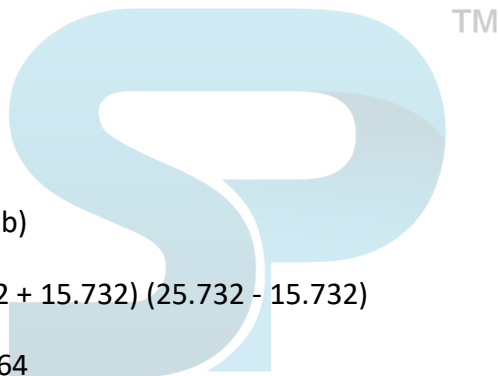
Answer: A

Explanation:

$$\text{We know that, } a^2 - b^2 = (a+b)(a-b)$$

$$\text{Or, } (25.732)^2 - (15.732)^2 = (25.732 + 15.732)(25.732 - 15.732)$$

$$\text{Or, the value} = 41.464 * 10 = 414.64$$



**44. Average of five numbers is 20. If each number is multiplied by 2, what will be the new average?**

- A. 30
- B. 40
- C. 50
- D. 60

Answer: B

Explanation:

$$\text{The new average} = \text{Initial average} * 2$$

$$= 20 * 2 = 40$$

**45. The average of Sohan's marks in 6 subjects is 74. If his average in five subjects excluding science is 70, how many marks he obtained in science?**





- A. 94
- B. 92
- C. 90
- D. 88

Answer: A

Explanation:

Total marks obtained in 6 subjects =  $6 * 74 = 444$

Total marks in 5 subjects excluding science =  $5 * 70 = 350$

Therefore, marks obtained in science would be =  $444 - 350 = 94$

**46. When  $60 - [30 - \{35 - (15 - *)\}] = 60$ , then \* is equal to**

- A. -19
- B. 35
- C. 20
- D. -29

Answer: B

Explanation:

$$35 - [30 - \{35 - (15 - *)\}] = 60$$

$$35 - [30 - \{35 - 15 + *\}] = 60$$

$$35 - [30 - \{20 + *\}] = 60$$

$$35 - [30 - 20 - *] = 60$$

$$35 - [10 - *] = 60$$

$$35 - 10 + * = 60$$

$$25 + * = 60$$

$$* = 60 - 25 = 35$$



**47. The ratio of the ages of Minu and Meera is 4:2. If the sum of their ages is 6 years, find the ratio of their ages after 8 years.**

- A. 8:6
- B. 6:5
- C. 6:4
- D. 7:5



Answer: B

Explanation:

Let the age of Minu is  $4X$  and age of Meera  $2X$ .

As per question;  $4X + 2X = 6$

$$6X = 6$$

$$X = 1$$

$\therefore$  Minu's age =  $4 * 1 = 4$  years

Meera's age =  $2 * 1 = 2$  years

Ratio =  $(4+8) : (2+8)$

$$= 12 : 10$$

$$= 6 : 5$$

**48. Ten years ago, the sum of ages of a father and his son was 34 years. If the ratio of present ages of the father and son is 7:2, find the present age of the son.**

- A. 12 years
- B. 11 years
- C. 10 years
- D. 8 years

Answer: A

Explanation:

Let the present age of the father is  $7X$  and present age of son is  $2X$ .

As per question, ten years ago;

$$(7X - 10) + (2X - 10) = 34$$

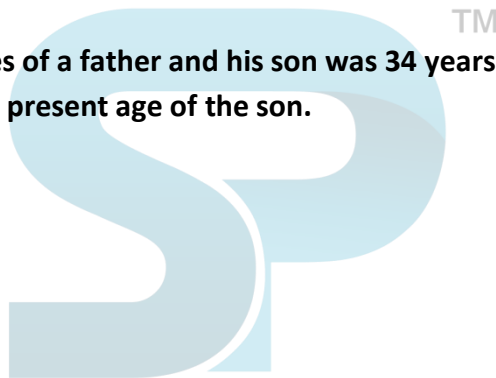
$$7X - 10 + 2X - 10 = 34$$

$$9X = 34 + 20$$

$$9X = 54$$

$$X = 6$$

$\therefore$  Present age of son =  $2 * 6 = 12$  years





49. A shopkeeper sold an article for Rs. 2500. If the cost price of the article is 2000, find the profit percent.

- A. 23%
- B. 25%
- C. 27%
- D. 29%

Answer: B

Explanation:

C.P. = Rs. 2000

S.P. = Rs. 2500

Profit or Gain = S.P. - C.P.

= 2500 - 2000 = 500

**Apply formula:** Profit % =  $\frac{\text{Profit}}{\text{C.P.}} * 100$

$$= \frac{500}{2000} * 100 = 25 \%$$

50. If 4 men can finish 4 times of a work in 4 days, in how many days 6 men can finish the 6 times of same work ?

- A. 3 days
- B. 4 days
- C. 5 days
- D. 6 days

Answer: B

Explanation:

4 men can finish 4 times of work in four days.

Therefore, one man can finish the one time of work in four days.

So, 6 men will finish the six times of work in the same time (4 days)

Quicker method:

Apply formula:  $M_1D_1W_2 = M_2D_2W_1$

Let the work be X

Work done by 4 men,  $W_1 = 4X$



Work done by 6 men,  $W_2 = 6X$

$$4 \times 4 \times 6X = 6 \times D_2 \times 4X$$

$$96X = D_2 \times 24X$$

$D_2 = 4$  days

**51. If 5 workers can paint a house in 9 days, in how many days 3 workers can complete the same task?**

- A. 13 days
- B. 14 days
- C. 15 days
- D. 16 days

Answer: C

Explanation:

Using formula:  $M_1D_1W_2 = M_2D_2W_1$

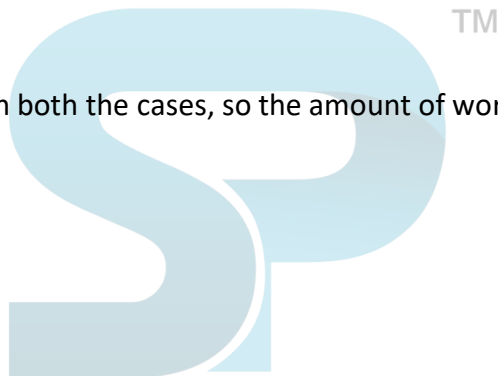
$$\text{We have } = 5 \times 9 \times W_2 = 3 \times D_2 \times W_1$$

$W_2 = W_1$  as the task is the same in both the cases, so the amount of work to be done would be the same

$$\text{Therefore, we have } 5 \times 9 = 3 \times D_2$$

$$45 = 3 \times D_2$$

$$D_2 = \frac{45}{3} = 15 \text{ days}$$



**52. A: B: C is in the ratio of 3: 2: 5. How much money will C get out of Rs 1260?**

- A. 252
- B. 125
- C. 503
- D. None of these

Answer: D

Explanation:

C's share =  $\left[ \frac{\text{C's ratio}}{\text{sum of ratios}} \right] \times \text{total amount}$

$$\text{C's share} = \left( \frac{5}{10} \right) \times 1260$$

$$\text{C's share} = 630$$



53. If a: b is 3: 4 and b: c is 2: 5. Find a: b: c.

- A. 3: 2: 5
- B. 3: 6: 5
- C. 3: 4:10
- D. 2: 3: 4

Answer: C

Explanation:

The ratio of a: b is 3: 4

The ratio of b: c is 2: 5

Note: To find the ratio in such questions, multiply a to b, then b to b, and then b to c.

$$a: b: c = 3 \times 2: 4 \times 2: 4 \times 5$$

$$a: b: c = 6: 8: 20$$

$$\text{So, } a: b: c = 3: 4: 10$$

54. The ratio of the total amount distributed in all the males and females as salary is 6: 5. The ratio of the salary of each male and female is 2: 3. Find the ratio of the no. of males and females.

- A. 5:9
- B. 5:7
- C. 7:5
- D. 9:5

Answer: D

Explanation:

The total salary of males: the total salary of females = 6:5

The salary of each male: salary of each female = 2:3

To find the number of men and women, divide the total salary of males and females by salary of each male and female.

$$\text{i.e., } 6/2: 5/3$$

$$\text{Or, } 18: 10 = 9: 5$$

So, the ratio of the number of males and females = 9:5

55. If the HCF of two numbers is 27, and their sum is 216, find these numbers.



- A. 27, 189
- B. 154, 162
- C. 108, 108
- D. 81, 189

Answer: A

Explanation:

Let the numbers be  $27x$  and  $27y$ .

Then,  $27x + 27y = 216$

$27(x + y) = 216$

$(x + y) = 216/27$

$X + y = 8$

co-prime numbers with sum 8 are (1, 7) and (3, 5).

Therefore we can say that the required numbers are  $(27 \times 1, 27 \times 7)$  and  $(27 \times 3, 27 \times 5)$ , i.e. (27, 189) and (81, 135).

Out of the above two answers, the given one in the answer is the pair (27, 189).

**56. Two numbers are in the ratio of 15:11. If the HCF of numbers is 13, find the numbers.**

- A. 75, 55
- B. 105, 77
- C. 15, 11
- D. 195, 143

Answer: D

Explanation:

Let the two numbers are  $15x$  and  $11x$

HCF =  $x$

$x = 13$

Therefore, the numbers are  $(15 \times 13$  and  $11 \times 13)$ , i.e. 195 and 143.

**57. Find the greatest integer that divides 358, 376, and 334 and leaves the same remainder in each case.**

- A. 6
- B. 7



C. 8

D. 9

Answer: A

Explanation:

Take the difference between two numbers

$$376 - 358 = 18;$$

$$376 - 334 = 42;$$

$$358 - 334 = 24;$$

By taking the HCF of 18, 42, 24.

$$18 = 2 \times 3 \times 3$$

$$42 = 2 \times 3 \times 7$$

$$24 = 2 \times 2 \times 2 \times 3$$

$$\text{HCF} = 2 \times 3 = 6$$

Hence the required number is 6.

**58. A shopkeeper mixes 60 kg of sugar worth Rs. 30 per kg with 90 kg of sugar worth Rs. 40 per kg. At what rate he must sell the mixture to gain 20%?**

A. Rs. 30 per kg

B. Rs. 34 per kg

C. Rs. 43.2 per kg

D. Rs. 38 per kg

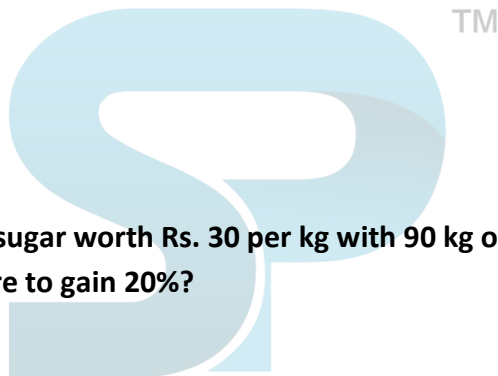
Answer: C

Explanation:

Total cost price of (60+90)150 kg of mixture =  $(60 \times 30 + 90 \times 40)$

$$= 1800 + 3600$$

$$= \text{Rs. } 5400$$







$$\text{Cost Price per kg of mixture} = \frac{5400}{150} = \text{Rs. } 36 \text{ per kg}$$

Now, Required gain = 20%

$$\therefore \text{Required selling price per kg of mixture} = \frac{120}{100} * 36 = \text{Rs. } 43.2 \text{ per kg}$$

59. A rice dealer bought 60 kg of rice worth Rs. 30 per kg and 40 kg of rice worth Rs. 35 per kg. He mixes the two and sells the mixture at Rs. 40 per kg. What is the percentage profit in this deal?

- A. 18%
- B. 21%
- C. 23%
- D. 25%

Answer: D

Explanation:

$$\begin{aligned} \text{Total cost price of (60 + 40) 100kg of mixture} &= (60*30 + 40*35) \\ &= 1800 + 1400 \\ &= \text{Rs. } 3200 \end{aligned}$$

Now, selling price of the mixture = 100 \* 40 = Rs. 4000

Profit = 4000 - 3200 = Rs. 800

$$\therefore \text{Required percentage profit} = \frac{800}{3200} * 100 = 25\%$$

60. If Suresh borrows Rs. 36000 from Mahesh at rate of interest 6% S.I, at the end of four years how much interest Suresh has to pay along with principal amount?

- A. Rs. 12560
- B. Rs. 12960
- C. Rs. 13500
- D. Rs. 14500

Answer: B

Explanation:

Principal amount = Rs. 36000

Rate of interest = 6

Number of years or time = 6 years



Apply formula:  $S.I = \frac{P*r*t}{100}$

$$\text{Simple interest} = \frac{36000*6*6}{100} = 12960$$

61. In how many years the simple interest on Rs. 6000 at 10% rate of interest S.I will become Rs. 1800?

- A. 3 months
- B. 3.5 months
- C. 4 months
- D. 4.5 months

Answer: B

Explanation:

Principal = Rs. 6000

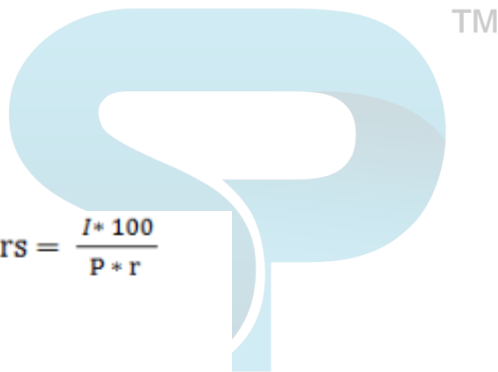
Simple Interest = Rs. 1800

Rate of interest = 10%

Number of years or time =?

Apply formula: Number of years =  $\frac{I * 100}{P * r}$

$$= \frac{1800 * 100}{6000 * 10}$$
$$= \frac{180000}{60000} = \frac{180}{60} = 3 \text{ months}$$



62. Sohan has borrowed Rs. 5000 at the rate of 6% S.I. what amount he needs to pay after 3 years to clear the debt?

- A. Rs. 5500
- B. Rs. 5900
- C. Rs. 6100
- D. Rs. 6300

Answer: B

Explanation:

Principal = Rs. 5000

Rate of interest= 6%



Time period = 3 years

**Apply formula:** Amount =  $P \left(1 + \frac{r * t}{100}\right)$

Therefore, Required Amount =  $5000 \left(1 + \frac{6 * 3}{100}\right)$

=  $5000 \left(1 + \frac{18}{100}\right)$

=  $5000 * \frac{118}{100} = \text{Rs. } 5900$



63. In what time Rs. 6000 will give interest of Rs. 720 at the rate of 6% p.a. S.I.?

- A. 5 years
- B. 2 years
- C. 5 years
- D. 3 years

Answer: B

Explanation:

Principal = Rs. 6000

Interest = Rs. 720

Rate of interest = 6%

Time or number of years = ?



**Apply formula:** Number of years =  $\frac{I * 100}{P * r}$

=  $\frac{720 * 100}{6000 * 6}$

=  $\frac{72000}{36000}$

=  $\frac{72}{36} = 2 \text{ years}$

64. The simple interest on a certain sum of money at rate of interest 5% per annum for 2 years is Rs. 500. What is the compound interest on the same sum for the same period and at the same rate of interest?

- A. Rs.412.5



- B. Rs.400
- C. Rs.500
- D. Rs.512.5

Answer: B

Explanation:

S.I. = 500

r = 5%

Before finding C.I. we have to find the sum or principal; t = 2 years

**Apply formula; Principal =  $\frac{I * 100}{r * t}$**

Principal =  $\frac{500 * 100}{5 * 2}$  = Rs. 5000

Now we have to find the Amount;

**Apply formula; Amount =  $P (1 + \frac{r}{100})^3$**

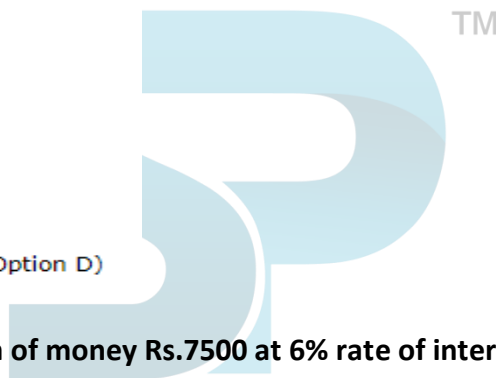
Amount =  $5000 (1 + \frac{5}{100})^2$

$(\frac{105}{100} * \frac{105}{100})$

=  $5000 * 1.05 * 1.05$  = Rs. 5512.5

**C.I. = Amount - Principal**

C.I. =  $5512.5 - 5000$  = Rs. 512.5 (Option D)



65. What is the amount for a sum of money Rs.7500 at 6% rate of interest C.I. for 2 years?

- A. Rs. 8427
- B. Rs. 8417
- C. Rs. 8400
- D. Rs. 8390

Answer: B

Explanation:

Principal = Rs. 7500

r = 6%

t = 2 years



$$\begin{aligned}\text{Amount} &= P \left(1 + \frac{r}{100}\right)^2 \\ &= 7500 \left(1 + \frac{6}{100}\right)^2 \\ &= 7500 * \frac{106}{100} * \frac{106}{100} = \text{Rs. } 8427\end{aligned}$$

**Directions (66to 67):** Refer to the following information regarding data interpretation questions and answer them accordingly :

A factory employs three machines M1, M2 and M3 to manufacture three products X, Y and Z. Each machine runs for 12 hours a day. The following table gives the time taken (in minutes) by each machine to manufacture 1 unit of each of the products.

	M1	M2	M3
X	12	15	16
Y	18	9	15
Z	10	18	12

**66. What is the maximum number of products that can be manufactured in a day?**

- A. 125
- B. 155
- C. 200
- D. 212

Answer: D

Explanation:

Since the maximum number is asked, the machine time of the product being manufactured must be minimum. On machines M1, M2 and M3, products X , Y and Z need minimum time respectively.

Since each machine has 720 minutes of manufacturing time, 72 units of Z, 80 units of Y and 60 units of X can be manufactured on the three machines respectively. Thus, the maximum units that can be manufactured in a day is 212.

**67. On a particular day, the demand for 40 units of X and 50 units of Y must be met. If the remaining production is of product Z only, what is the maximum number of units of Z that can be manufactured on that day?**

- A. 81



- B. 85
- C. 99
- D. None of these

Answer: C

Explanation:

Let X and Y be manufactured on machines where they need minimum manufacturing time.

So, X and Y are manufactured on machines M1 and M2 respectively. Manufacturing 40 units of X on M1 leaves  $720 - 480 = 240$  minutes of manufacturing time.

So, 24 units of Z can be manufactured on this machine. Manufacturing 50 units of Y on M2 leaves  $720 - 450$

= 270 minutes of manufacturing time.

So, 15 units of Z can be manufactured on this machine. Since M3 has 720 minutes of manufacturing time, 60 units of Z can be manufactured on this machine. So, the total units of Z that can be manufactured is 99

**68. A unit of Y can be manufactured only after 3 units of X and 4 units of Z have been manufactured. What is the minimum time required to manufacture 15 units of Y?**

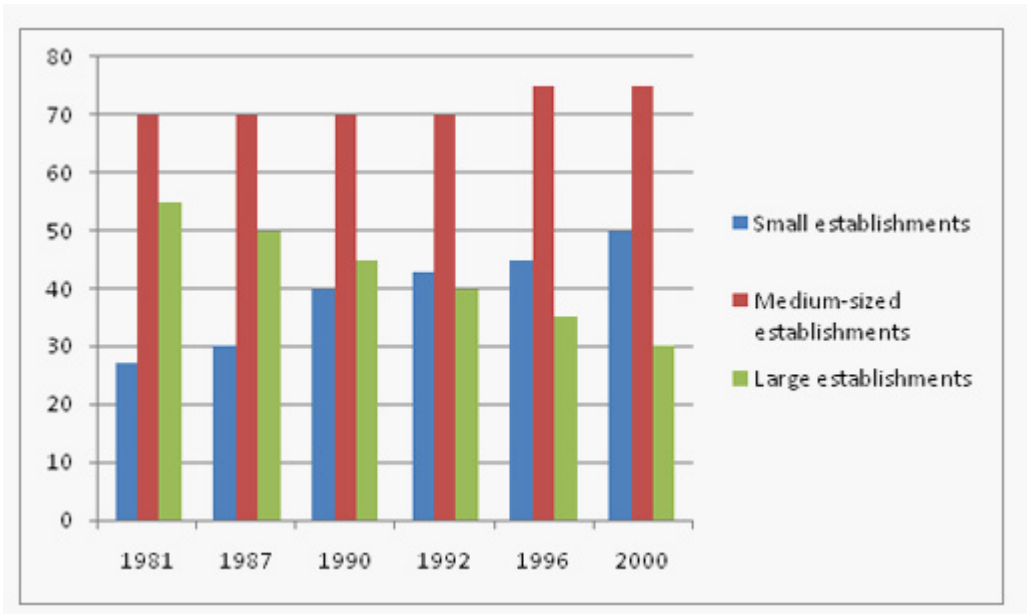
- A. 1359 minutes
- B. 1442 minutes
- C. 1556 minutes
- D. 1655 minutes

Answer: A

Explanation:

Before manufacturing 15 units of Y, 45 units of X and 60 units of Z must be manufactured. X-M1  $\rightarrow$  540 minutes, Z-M1(18 units)  $\rightarrow$  180 minutes, Z-M3(42 units)  $\rightarrow$  504 minutes, Y-M2(15 units)  $\rightarrow$  135 minutes. So, the total is 1359 minutes

Directions for questions 4 to 8: The following diagram shows the percentage share of manufacturing sector in total employment in small, medium and large establishments individually. The definitions of small, large and medium establishments are shown below in the diagram



69. In 1981 and 1987 about 50 million and 60 million people were employed in small establishments. What was the difference between the no. of employees employed in manufacturing sector small establishments in 1981 and 1987?

- A. 4.6 million
- B. 13.5 million
- C. 5 million
- D. 6.3 million

Answer: A

Explanation:



Data interpretation formulas:

Reqd Number of employees in 1981 =  $50 \times 27/100 = 13.5$ ,

Reqd Number of employees in 1987 =  $60 \times 30/100 = 18$ .

Required difference =  $18 - 13.5 = 4.5$

70. In 1987, about 40 million employees were there in the large establishments. The population of employees from 1987 to 2000 grew by 60% in large establishments. How many employees were there in the manufacturing sector in large establishments in 2000?

- A. 33.2 m
- B. 69.3 m
- C. 19.2 m
- D. 47.2 m

Answer: C



Explanation:

Sol:  $40 \times 1.6 = 64\text{m}$ .

In 2000, there were  $64 \text{ m} \times 30/100 = 19.2 \text{ m}$

**71. The interior temperatures of even the coolest stars are measured in millions of degrees.**

- A. Coolest
- B. Of even
- C. Are measured
- D. In millions

Answer: C

Explanation:

“Are” is the auxiliary verb for passive voice and “measured” is the past participle of the verb “to measure.” “Coolest” (A) is the superlative form of the adjective “cool,” modifying “temperatures.” “Of even” (B) and “in millions” (D) are prepositional phrases.

**72. Thomas Edison tried many filaments for his incandescent lamp.**

- A. Many
- B. For his
- C. Filaments
- D. Tried

Answer: D

Explanation:

“Tried” is past tense of verb “to try.” “Many” (A) is an adjective modifying the noun “filaments” (C). “For his” (B) is a prepositional phrase

**73. Jill sets the plates on the table.**

- A. The
- B. Plates
- C. Table
- D. Sets

Answer: D

Explanation:

“Sets” is present tense of the transitive verb “to set.” “The” (A) is an article modifying the noun “plates” (B). “Table” (C) is a noun.





**74. The organization aims to providing with satellite-based data on climate-relevant information with highest possible levels of accuracy and reliability.**

- A. to provide with
- B. at providing with
- C. to provide
- D. to the provision of
- E. No correction required

Answer: C

Explanation:

The organisation aims 'at providing' or 'to provide' something. The use of 'with' is incorrect. It aims 'to provide' something not 'provide with something'.

**75. The organization aims to providing with satellite-based data on climate-relevant information with highest possible levels of accuracy and reliability.**

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- B. at providing with
- C. to provide
- D. to the provision of
- E. No correction required



Answer: C

Explanation:

The organisation aims 'at providing' or 'to provide' something. The use of 'with' is incorrect. It aims 'to provide' something not 'provide with something'.

**76. Underwater archaeology has huge potential, as it could be a time-consuming and costly way to study the past.**

- A. as it is
- B. but it is
- C. since it could be
- D. but it could
- E. No correction required

Answer: B

Explanation: The first part of the sentence says something positive about underwater archaeology (has huge potential) and the second part brings out its drawbacks. It is a contradiction and hence it is apt to use a conjunction which brings out this contrast. The conjunction 'but' has to replace 'as'. Also the idea stated is given as a fact. The first part is in simple past and the second part should also be in the simple



past. The verb 'is' has to replace 'could be' which suggests a supposition. The correction therefore is 'but it is a time-consuming'.

**77. Suganya is typing.**

- A. simple past
- B. simple present
- C. present continuous
- D. past perfect

Answer: C

**78. Mahatma Gandhi was born in Porbandar.**

- A. simple past
- B. simple present
- C. simple future
- D. past continuous

Answer: A

**79. Shakespeare has written dramas appealing to all people of all ages .**

- A. simple present
- B. present continuous
- C. past perfect
- D. present perfect



Answer: D

**80. Prasanna would have reached Bangalore by this time.**

- A. present perfect
- B. past perfect
- C. future perfect
- D. simple past

Answer: C

**81. People**

- A. (P) at his dispensary
  - B. (Q) went to him
  - C. (R) of all professions
  - D. (S) for medicine and treatment
- A. RQSP
  - B. QPRS



- C. QRPS
- D. RPQS

Answer: A

**82. As lightning accompanies thunder**

**(P) was mingled with**

**(Q) so in my character**

**(R) the mutterings of my wrath**

**(S) a flash of humour**

- A. QSPR
- B. PRSQ
- C. QPRS
- D. QRPS

Answer: D

**83. Recently**

**(P) containing memorable letters of Churchill**

**(Q) a book**

**(R) has been published**

**(S) by a reputed publisher**

- A. QPRS
- B. PQRS
- C. QRPS
- D. RQPS

Answer: A

**84. All religions are**

**(P) to advance the cause of peace**

**(Q) in a holy partnership**

**(R) justice and freedom**

**(S) bound together**

- A. PQRS
- B. PRQS





- C. SPQR
- D. SQPR

Answer: D

**Directions (85 – 86):** I felt the wall of the tunnel shiver. The master alarm squealed through my earphones. Almost simultaneously, Jack yelled down to me that there was a warning light on. Fleeting but spectacular sights snapped into ans out of view, the snow, the shower of debris, the moon, looming close and big, the dazzling sunshine for once unfiltered by layers of air. The last twelve hours before re-entry were particular bone-chilling. During this period, I had to go up in to command module. Even after the fiery re-entry splashing down in 81o water in south pacific, we could still see our frosty breath inside the command module.

**85. The word 'Command Module' used twice in the given passage indicates perhaps that it deals with**

- A. an alarming journey
- B. a commanding situation
- C. a journey into outer space
- D. a frightful battle.

Answer: C

**86. Which one of the following reasons would one consider as more as possible for the warning lights to be on?**

- A. There was a shower of debris.
- B. Jack was yelling.
- C. A catastrophe was imminent.
- D. The moon was looming close and big.

Answer: C

**86. The statement that the dazzling sunshine was "for once unfiltered by layers of air" means**

- A. that the sun was very hot
- B. that there was no strong wind
- C. that the air was unpolluted
- D. none of above

Answer: D

**87. New York is ----- large city**

- A. a
- B. an
- C. the



D. no article

Answer: A

**88. Are you attending ----- reception today**

- A. a
- B. an
- C. the
- D. no article

Answer: C

**89. ----- Oranges are grown in Nagpur**

- A. a
- B. an
- C. the
- D. no article

Answer: D

**90. She wants to become ----- engineer**

- A. a
- B. an
- C. the
- D. no article

Answer: B



**91. What do you understand by the following sentence: "The President seems to have a seamy side".**

- A. The President is a hardworking guy.
- B. The President is an idiot.
- C. The President is an unpleasant and immoral person.
- D. The President has a tattoo.

Answer: C

**Explanation:** The President is an unpleasant and immoral person.

**92. Pick the option that represents the meaning of the following sentence: The Economic Policies and the Social Policies should never be at loggerheads.**

- A. The Economic Policies and the Social Policies should be similar.
- B. Economic Policies and the Social Policies should not be similar.
- C. These Policies should be in disagreement with each other.
- D. The Economic Policies and the Social Policies should never be in disagreement with each other.



Answer: C

**Explanation:** The Economic Policies and the Social Policies should never be in disagreement with each other.

**93. CORPULENT**

- A. Lean
- B. Gaunt
- C. Emaciated
- D. Obese

Answer: D

**94. BRIEF**

- A. Limited
- B. Small
- C. Little
- D. Short

Answer: D

**95. EMBEZZLE**

- A. Misappropriate
- B. Balance
- C. Remunerate
- D. Clear

Answer: A

**96. VENT**

- A. Opening
- B. Stodge
- C. End
- D. Past tense of go

Answer: A

**97. REITERATE**

- A. Deny
- B. Repeat
- C. Frustrate
- D. Illustrate

Answer: B





**98. EMULATE**

- A. Discuss
- B. Deny
- C. Question
- D. Imitate

Answer: D

**99. CONSEQUENCE**

- A. Indifference
- B. Serial
- C. Affect
- D. Outcome

Answer: D

**100. INHIBIT**

- A. Surrender
- B. Discard
- C. Refrain
- D. Activate

Answer: D





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