



डिजाईन जागरुकता अभियान
DESIGN AWARENESS DRIVE

DAD



On the objectives of

National Design Policy

Govt. Of India

DAD-DESIGNED TO SUPPORT
NATIONAL DESIGN POLICY INDIA

Preparation of a platform for creative design development, design promotion and partnerships across many sectors, states and regions for integrating design with traditional and technological resources.

Global positioning and branding of Indian designs and making "Designed in India" a by-word for quality and utility in conjunction with "Made in India" and "Served in India".

UNITED COUNTRYOUTHS FEDERATION

THE CREATIVE LEADERS-INDIA2018



1. Answer: Option C
 Explanation:
 Let the number of students in rooms A and B be x and y respectively.
 Then, $x - 10 = y + 10 \Rightarrow x - y = 20$
(i)
 and $x + 20 = 2(y - 20) \Rightarrow x - 2y = -60$
(ii)
 Solving (i) and (ii) we get: $x = 100$, $y = 80$.
 \therefore The required answer A = 100.

2. Answer: Option C
 Explanation:
 There are 6 letters in the given word, out of which there are 3 vowels and 3 consonants.
 Let us mark these positions as under:
 (1) (2) (3) (4) (5) (6)
 Now, 3 vowels can be placed at any of the three places out of 4, marked 1, 3, 5.
 Number of ways of arranging the vowels = ${}^3P_3 = 3! = 6$.
 Also, the 3 consonants can be arranged at the remaining 3 positions.
 Number of ways of these arrangements = ${}^3P_3 = 3! = 6$.
 Total number of ways = $(6 \times 6) = 36$.

3. Answer: Option A
 Explanation:
 Rebate = 6% of Rs. 6650 = Rs. $(\frac{6}{100} \times 6650) = \text{Rs. } 399$.
 Sales tax = 10% of Rs. $(6650 - 399) = \text{Rs. } (\frac{10}{100} \times 6251) = \text{Rs. } 625.10$
 \therefore Final amount = Rs. $(6251 + 625.10) = \text{Rs. } 6876.10$

4. Answer: Option D
 Explanation:
 Distance = $(240 \times 5) = 1200 \text{ km}$.
 Speed = Distance/Time

Speed = $1200 / (5/3) \text{ km/hr}$. [We can write 1 hours as $5/3$ hours]
 \therefore Required speed = $(1200 \times \frac{3}{5}) \text{ km/hr} = 720 \text{ km/hr}$.

5. Answer: Option B
 Explanation:
 Speed = $(\frac{240}{24}) \text{ m/sec} = 10 \text{ m/sec}$.
 \therefore Required time = $(\frac{240+650}{10}) \text{ sec} = 89 \text{ sec}$.

6. Answer: Option A
 Explanation:

$$\begin{array}{r} 23) 1056 (45 \\ \underline{92} \\ 136 \\ \underline{115} \\ 21 \\ \underline{21} \\ 0 \end{array}$$
 Required number = $(23 - 21) = 2$.

7. Answer: Option C
 Explanation:
 Work done by the waste pipe in 1 minute = $\frac{1}{15} - (\frac{1}{20} + \frac{1}{24})$
 $= (\frac{1}{15} + \frac{1}{120})$
 $= -\frac{1}{40}$. [-ve sign means emptying]
 Volume of $\frac{1}{40}$ part = 3 gallons.
 Volume of whole = $(3 \times 40) \text{ gallons} = 120 \text{ gallons}$.

8. Answer: Option B
 Explanation:
 Suppose A, B and C take x , $\frac{x}{2}$ and $\frac{x}{3}$ days respectively to finish the work.
 Then, $(\frac{1}{x} + \frac{2}{x} + \frac{3}{x}) = \frac{1}{2}$
 $\Rightarrow \frac{6}{x} = \frac{1}{2}$
 $\Rightarrow x = 12$.

- So, B takes $(12/2) = 6$ days to finish the work.
9. Answer: Option D
Explanation:
Let the present ages of son and father be x and $(60 - x)$ years respectively.
Then, $(60 - x) - 6 = 5(x - 6)$
 $\Rightarrow 54 - x = 5x - 30$
 $\Rightarrow 6x = 84$
 $\Rightarrow x = 14.$
 \therefore Son's age after 6 years $= (x + 6) = 20$ years
10. Answer: Option A
Explanation:
Total sale for 5 months = Rs. $(6435 + 6927 + 6855 + 7230 + 6562) =$ Rs. 34009.
 \therefore Required sale = Rs. $[(6500 \times 6) - 34009]$
 $=$ Rs. $(39000 - 34009)$
 $=$ Rs. 4991.
11. Answer: Option B
Explanation:
Let their present ages be $4x$, $7x$ and $9x$ years respectively.
Then, $(4x - 8) + (7x - 8) + (9x - 8) = 56$
 $\Rightarrow 20x = 80$
 $\Rightarrow x = 4.$
 \therefore Their present ages are $4x = 16$ years, $7x = 28$ years and $9x = 36$ years respectively.
12. Answer: Option C
Explanation:
C.P. of 6 toffees = Re. 1
S.P. of 6 toffees = 120% of Re. 1 = Rs. $\frac{6}{5}$
For Rs. $\frac{6}{5}$, toffees sold = 6.
For Re. 1, toffees sold $= (6 \times \frac{5}{6}) = 5.$
13. Answer: Option A
14. Answer: Option C
Explanation:
Other number $= (\frac{11 \times 7700}{275}) = 308.$
15. Answer: Option B
Explanation:
Increase in 10 years $= (262500 - 175000) = 87500.$
Increase% $= (\frac{87500}{175000} \times 100)\% = 50\%.$
 \therefore Required average $= (\frac{50}{10})\% = 5\%.$
16. Answer: Option B
Explanation:
Let C.P. be Rs. x and S.P. be Rs. y .
Then, $3(y - x) = (2y - x) \Rightarrow y = 2x.$
Profit = Rs $(y - x) = (2x - x) =$ Rs. $X.$
 \therefore Profit% $= (\frac{X}{X} \times 100)\% = 100\%$
17. Answer: Option C
Explanation:
Let A's 1 day's work = x and B's 1 day's work = y .
Then, $x + y = \frac{1}{30}$ and $16x + 44y = 1.$
Solving these two equations, we get $x = \frac{1}{60}$ and $y = \frac{1}{60}$
 \therefore B's 1 day's work $= \frac{1}{60}.$
Hence, B alone shall finish the whole work in 60 days.
18. Answer: Option B
Explanation:
- Explanation:
Ratio of rates of working of A and B = 2: 1.
So, ratio of times taken = 1 : 2.
B's 1 day's work $= \frac{1}{12}.$
 \therefore A's 1 day's work $= \frac{1}{6};$
(2 times of B's work)
(A + B)'s 1 day's work $= (\frac{1}{6} + \frac{1}{12}) = \frac{3}{12} = \frac{1}{4}.$
So, A and B together can finish the work in 4 days.

Let the numbers be $3x$ and $5x$.

$$\text{Then, } \frac{3x-9}{5x-9} = \frac{12}{23}$$

$$\Rightarrow 23(3x - 9) = 12(5x - 9)$$

$$\Rightarrow 9x = 99$$

$$\Rightarrow x = 11.$$

$$\therefore \text{The smaller number} = (3 \times 11) = 33.$$

19. Answer: Option A

Explanation:

Let the son's present age be x years.

$$\text{Then, } (38 - x) = x$$

$$\Rightarrow 2x = 38.$$

$$\Rightarrow x = 19.$$

\therefore Son's age 5 years back $(19 - 5) = 14$ years.

20. Answer: Option C

Explanation:

$$\text{C.P.} = \text{Rs. } \left(\frac{100}{122.5} \times 392 \right) = \text{Rs. } \left(\frac{1000}{1225} \times 392 \right) = \text{Rs. } 320$$

$$\therefore \text{Profit} = \text{Rs. } (392 - 320) = \text{Rs. } 72.$$

21. Answer: Option C

Explanation:

$$\text{Amount} = \text{Rs. } \left[8000 \times \left(1 + \frac{5}{100} \right)^2 \right]$$

$$= \text{Rs. } \left(8000 \times \frac{21}{20} \times \frac{21}{20} \right)$$

$$= \text{Rs. } 8820.$$

22. Answer: Option B

Explanation:

Let number of balls = $(6 + 8) = 14$.

Number of white balls = 8.

$$P(\text{drawing a white ball}) = \frac{8}{14} = \frac{4}{7}$$

23. Answer: Option C

Explanation:

We may have (1 black and 2 non-black) or (2 black and 1 non-black) or (3 black).

\therefore Required number of ways =

$$({}^3C_1 \times {}^6C_2) + ({}^3C_2 \times {}^6C_1) + ({}^3C_3)$$

$$= \left(3 \times \frac{6 \times 5}{2 \times 1} \right) + \left(\frac{3 \times 2}{2 \times 1} \times 6 \right) + 1$$

$$= (45 + 18 + 1)$$

$$= 64.$$

24. Answer: Option D

Explanation:

Suppose originally he had x apples.

Then, $(100 - 40)\%$ of $x = 420$.

$$\Rightarrow \frac{60}{100} \times x = 420$$

$$\Rightarrow x = \left(\frac{420 \times 100}{60} \right) = 700.$$

25. Answer: Option B

Explanation:

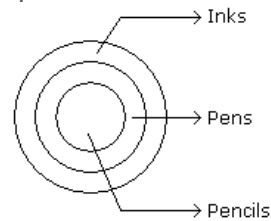
Sum of the present ages of husband, wife and child = $(27 \times 3 + 3 \times 3)$ years = 90 years.

Sum of the present ages of wife and child = $(20 \times 2 + 5 \times 2)$ years = 50 years.

\therefore Husband's present age = $(90 - 50)$ years = 40 years.

26. Answer: Option E

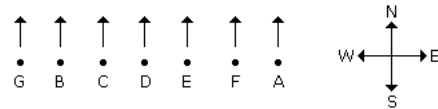
Explanation:



Both (1) and (2) follow.

27. Answer: Option D

Explanation:



28. Answer: Option B

Explanation:

All except Hammer are sharp-edged and have a cutting action.

29. Answer: Option C

Explanation:

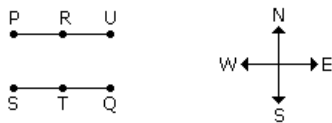
The correct order is :

Clay	Bricks	Wall	Room	House
25	1	4	3	

30. Answer: Option A
 Explanation:
 Since there are socks of only two colours, so two out of any three socks must always be of the same colour.

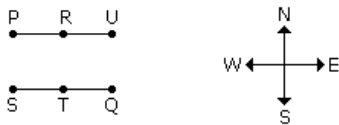
31. Answer: Option B
 Explanation:
 This is an alternating multiplication and subtracting series: First, multiply by 2 and then subtract 8.

32. Answer: Option C
 Explanation:



Hence URP flat combination get south facing flats.

33. Answer: Option A
 Explanation:



Hence QP is diagonally opposite to each other.

34. Answer: Option D
 Explanation:
 The third figure in each row comprises of parts which are not common to the first two figures.

35. Answer: Option A
 Explanation:
 In each row, the second figure is obtained from the first figure by reversing the direction of the RHS arrow and the third figure is obtained from the second figure by reversing the direction of both the arrows.

36. Answer: Option C

37. Answer: Option D

38. Answer: Option B

39. Answer: Option B

40. Answer: Option C

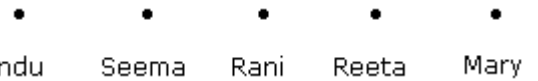
41. Answer: Option B
 Explanation:
 Let the number of boys be x. Then, $(3/4)x = 18$ or $x = 18 \times (4/3) = 24$.
 If total number of students is y, then $(2/3)y = 24$ or $y = 24 \times (3/2) = 36$.
 Therefore Number of girls in the class = $(36 - 24) = 12$.

42. Answer: Option B
 Explanation:



Rani is in the middle of the photograph.

43. Answer: Option D
 Explanation:

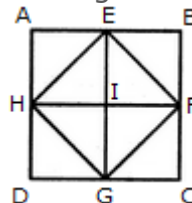


Seema is sitting second from the left in photograph.

44. Answer: Option D

45. Answer: Option D

46. Answer: Option C
 Explanation:
 The figure may be labelled as shown.



The simplest triangles are AEH, EHI, EBF, EFI, FGC, IFG, DGH and HIG i.e. 8 in number.

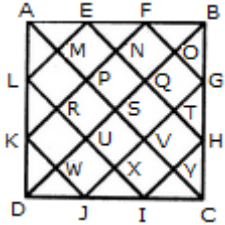
The triangles composed of two components each are HEF, EFG, HFG and EFG i.e. 4 in number.

Thus, there are $8 + 4 = 12$ triangles in the figure.

47. Answer: Option C

Explanation:

The figure may be labelled as shown.



The simplest triangles are AML, LRK, KWD, DWJ, JXI, IYC, CYH, HTG, GOB, BOF, FNE and EMA i.e. 12 in number.
 The triangles composed of two components each are AEL, KDJ, HIC and FBG i.e. 4 in number.
 The triangles composed of three components each are APF, EQB, BQH, GVC, CVJ, IUD, DUL and KPA i.e. 8 in number.
 The triangles composed of six components each are ASB, BSC, CSD, DSA, AKF, EBH, CGJ and IDL i.e. 8 in number.
 The triangles composed of twelve components each are ADB, ABC, BCD and CDA i.e. 4 in number.
 Total number of triangles in the figure = $12 + 4 + 8 + 8 + 4 = 36$.

48. Answer: Option C

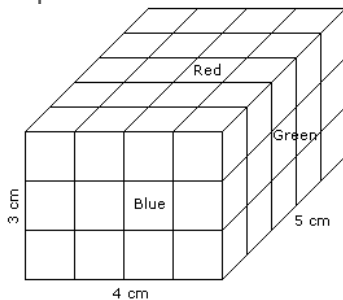
49. Answer: Option D

Explanation:

Total number of routes from Bristol to Carlisle = $(4 \times 3 \times 2) = 24$.

50. Answer: Option C

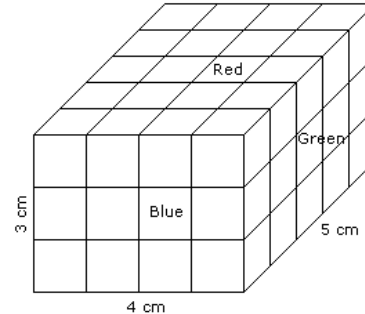
Explanation:



2 from the front + 2 from the back + 3 from the left + 3 from the right + 6 from the top + 6 from the bottom = 22

51. Answer: Option B

Explanation:



Such cubes are related to the corners of the cuboid and in the cuboid there are 8 corners.
 Hence, the required number of small cubes is 8.

52. Answer: Option C

Explanation:

The terms of the series are products of two consecutive prime numbers i.e. (2×3) , (3×5) , (5×7) , (7×11) ,.....
 So, 165 is wrong and must be replaced by (11×13) i.e. 143.

53. Answer: Option D

Explanation:

Each term of the series is obtained by multiplying the preceding term by 2.
 So, 96 is wrong and must be replaced by (64×2) i.e. 128.

54. Answer: Option D

Explanation:

The second and fourth letters in the series, L and A, are static. The first and third letters consist of an alphabetical order beginning with the letter E.

55. Answer: Option A

Explanation:

This series consists of letters in a reverse alphabetical order.

56. Answer: Option B

Explanation:

- Clearly, trade unions provide a common platform for the workers to voice their demands and protests and thus ensure that they are not subdued or exploited. So, argument II holds strong, while I and III do not. Besides, the idea of imitation of other countries in the implementation of a certain policy holds no relevance. So, argument IV also does not hold strong.
57. Answer: Option A
Explanation:
Courts are meant to judge impartially. So, argument III is vague. The system of local courts shall speed up justice by providing easy approach and simplified procedures, and thus ease the burden of the higher courts. So, I as well as II holds strong.
58. Answer: Option D
Explanation:
Both the statements I and II are effects of independent causes.
59. Answer: Option A
Explanation:
The father of the boy's uncle → the grandfather of the boy and daughter of the grandfather → sister of father.
60. Answer: Option D
Explanation:
The pattern is + 13, + 26, + 39,.....
So, missing term = $80 + 52 = 132$.
61. Answer: Option C
Explanation:
Bus and Train are different from each other but some travelers travel by bus and some travel by train.
62. Answer: Option B
Explanation:
This is a simple alternating addition and subtraction series. In the first pattern, 3 is added; in the second, 2 is subtracted.
63. Answer: Option B
Explanation:
- This is an alternating multiplication and subtracting series: First, multiply by 2 and then subtract 8.
64. Answer: Option A
Explanation:
The statement mentions that the northern grid collapsed 'yet again'. This means that it had collapsed earlier also. So, I is implicit. Also, the statement talks of a particular fault in the system but does not condemn the grid system. So, II is not implicit.
65. Answer: Option B
Explanation:
II explains the fact given in the statement and so is implicit. Nothing about 'mediocre students' is mentioned in or can be deduced from the given statement. So, I is not implicit.
66. Answer: Option C
67. Answer: Option A
68. Answer: Option A
69. Answer: Option A
70. Answer: Option C
Explanation:
"Have some tea before that."
71. Answer: Option E
Explanation: "The hotel was not comfortable"
72. Answer: Option A
73. Answer: Option B
74. Answer: Option B
75. Answer: Option C
76. Answer: Option A
77. Answer: Option A
78. Answer: Option A
79. Answer: Option C

80. Answer: Option D
81. Answer: Option B
82. Answer: Option B
83. Answer: Option D
84. Answer: Option D
85. Answer: Option A
86. Answer: Option A
87. Answer: Option A
88. Answer: Option A
89. Answer: Option A
Explanation:
with a little patience
90. Answer: Option C
Explanation:
'was that he was too young'
91. Answer: Option C
92. Answer: Option A
93. Answer: Option A
94. Answer: Option C
95. Answer: Option D
96. Answer: Option A
97. Answer: Option D
98. Answer: Option C
99. Answer: Option B
100. Answer: Option E
101. Answer: Option A
102. Answer: Option B
103. Answer: Option E
104. Answer: Option A
105. Answer: Option B
106. Answer: Option B
Explanation:
Sri Lanka got the status of Test playing country in 1981, and beat India in the 1979 World Cup. Before this they were champion of ICC non-test playing countries.
107. Answer: Option B
Explanation:
Rajiv Gandhi's birthday is celebrated as Sadbhawana Diwas on 20th August.
108. Answer: Option B
109. Answer: Option D
110. Answer: Option D
111. Answer: Option C
112. Answer: Option B
Explanation:
The Members of Gram Panchayats, Panch of Gram Kutchahry, Members of Panchayat Samiti and Zila Parishad are elected directly by the electorates of the respective territorial constituencies through universal adult franchise.
113. Answer: Option B
Explanation:
An aquifer is an underground layer of water-bearing permeable rock or unconsolidated materials (gravel, sand, silt, or clay) from which groundwater can be usefully extracted using a water well.
114. Answer: Option A
115. Answer: Option A
Explanation:
IBM also created it's own version of DOS called PC-DOS.nn
116. Answer: Option A

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117. Answer: Option A
Explanation:
On September 12, 1958, Jack Kilby demonstrated the first working IC while working for Texas Instruments, although the U.S. patent office awarded the first patent for an integrated circuit to Robert Noyce of Fairchild.
118. Answer: Option C
119. Answer: Option C
120. Answer: Option C
121. Answer: Option A
122. Answer: Option B
123. Answer: Option C
124. Answer: Option D
Explanation:
The presidency of the United Nations Security Council rotates on a monthly basis alphabetically among all of the members based on their English name.
125. Answer: Option B
126. Answer: Option B
127. Answer: Option A
128. Answer: Option C
129. Answer: Option A
130. Answer: Option B
131. Answer: Option A
132. Answer: Option A
133. Answer: Option A
134. Answer: Option C
135. Answer: Option D
136. Answer: Option D
137. Answer: Option A
138. Answer: Option D
139. Answer: Option C
140. Answer: Option A
141. Answer: Option A
142. Answer: Option A
143. Answer: Option C
144. Answer: Option D
145. Answer: Option A
146. Answer: Option A
147. Answer: Option B
148. Answer: Option C
149. Answer: Option D
150. Answer: Option A