



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:

$$\text{Speed} = \left(45 \times \frac{5}{18}\right) \text{ m/sec} = \left(\frac{25}{2}\right) \text{ m/sec.}$$

Time = 30 sec.

Let the length of bridge be x metres.

$$\text{Then, } \frac{130+x}{30} = \frac{25}{2}$$

$$\Rightarrow 2(130+x) = 750$$

$$\Rightarrow x = 245 \text{ m.}$$

2. Answer: Option A

Explanation:

Formula for converting from km/hr to m/s: X

$$\text{km/hr} = \left(x \times \frac{5}{18}\right) \text{ m/s.}$$

$$\text{Therefore, Speed} = \left(45 \times \frac{5}{18}\right) \text{ m/sec}$$

$$= \frac{25}{2} \text{ m/sec.}$$

Total distance to be covered =

$$(360 + 140) \text{ m} = 500 \text{ m.}$$

$$\text{Formula for finding Time} = \left(\frac{\text{Distance}}{\text{Speed}}\right)$$

$$\text{Required time} = \left(\frac{500 \times 2}{25}\right) \text{ sec} = 40 \text{ sec.}$$

3. Answer: Option C

Explanation:

Greatest number of 4-digits is 9999.

L.C.M. of 15, 25, 40 and 75 is 600.

On dividing 9999 by 600, the remainder is 399.

$$\text{Required number } (9999 - 399) = 9600.$$

4. Answer: Option D

Explanation:

Since the month begins with a Sunday, to there will be five Sundays in the month.

Required average

$$= \frac{510 \times 5 + 240 \times 25}{30} = \frac{8550}{30}$$

$$= 285$$

5. Answer: Option A

Explanation:

$$\text{Required run rate} = \left(\frac{282 - (3.2 \times 10)}{40}\right) = \frac{250}{40} = 6.25$$

6. Answer: Option C

Explanation:

$$\text{Required average} = \left(\frac{50.25 \times 16 + 45.15 \times 8}{16+8}\right)$$

$$= \left(\frac{804 + 361.20}{24}\right)$$

$$= \frac{1165.20}{24}$$

$$= 48.55$$

7. Answer: Option A

Explanation:

Let the ages of children be x , $(x + 3)$, $(x + 6)$, $(x + 9)$ and $(x + 12)$ years.

$$\text{Then, } x + (x + 3) + (x + 6) + (x + 9) + (x + 12)$$

$$= 50$$

$$\Rightarrow 5x = 20$$

$$x = 4.$$

8. Answer: Option A

Explanation:

Let the present ages of Sameer and Anand be $5x$ years and $4x$ years respectively.

$$\text{Then, } \frac{5X+3}{4X+3} = \frac{11}{9}$$

$$\Rightarrow 9(5x + 3) = 11(4x + 3)$$

$$\Rightarrow 45x + 27 = 44x + 33$$

$$\Rightarrow 45x - 44x = 33 - 27$$

$$\Rightarrow x = 6.$$

\therefore Anand's present age = $4x = 24$ years.

9. Answer: Option C

Explanation:

Clearly, the numbers which have 1 or 9 in the unit's digit, have squares that end in the digit 1. Such numbers from 1 to 70 are 1, 9, 11, 19, 21, 29, 31, 39, 41, 49, 51, 59, 61, 69.

Number of such number = 14

$$\text{Required percentage} = \left(\frac{14}{70} \times 100\right)\% = 20\%$$

$$\text{So, C alone can do the work in } \frac{48}{5} = 9\frac{3}{18} \text{ days}$$

10. Answer: Option B

Explanation:

$$\text{Cost Price (C.P.)} = \text{Rs. } (4700 + 800) = \text{Rs. } 5500.$$

$$\text{Selling Price (S.P.)} = \text{Rs. } 5800.$$

$$\text{Gain} = (\text{S.P.}) - (\text{C.P.}) = \text{Rs. } (5800 - 5500) = \text{Rs. } 300.$$

$$\text{Gain \%} = \left(\frac{300}{5500} \times 100\right)\% = 5\frac{5}{11}\%$$

11. Answer: Option B

Explanation:

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12. Answer: Option C

Explanation:

$$\text{S.P.} = 85\% \text{ of Rs. } 1400 = \text{Rs. } \left(\frac{85}{100} \times 1400\right) = \text{Rs. } 1190.$$

13. Answer: Option C

Explanation:

$$85:18700 = 115 : x$$

$$\Rightarrow x = \left(\frac{18700 \times 115}{85}\right) = 25300.$$

$$\text{Hence, S.P.} = \text{Rs. } 25,300.$$

14. Answer: Option C

Explanation:

$$(\text{A} + \text{B} + \text{C})\text{'s 1 day's work} = \frac{1}{4},$$

$$\text{A's 1 day's work} = \frac{1}{16}$$

$$\text{B's 1 day's work} = \frac{1}{12}$$

$$\text{C's 1 day's work} = \frac{1}{4} - \left(\frac{1}{16} + \frac{1}{12}\right) =$$

$$\left(\frac{1}{4} - \frac{7}{48}\right) = \frac{5}{18}$$

15. Answer: Option B

Explanation:

$$\text{C's 1 day's work} = \frac{1}{5} - \left(\frac{1}{2} + \frac{1}{6}\right) = \frac{1}{5} - \frac{7}{24} = \frac{1}{24}$$

$$\text{A's wages} : \text{B's wages} : \text{C's wages} =$$

$$\frac{1}{6} : \frac{1}{8} : \frac{1}{24} = 4 : 3 : 1.$$

$$\text{C's share (for 3 days)} = \text{Rs. } \left(3 \times \frac{1}{24} \times 3200\right) = \text{Rs. } 400.$$

16. Answer: Option C

Explanation:

$$\text{A's 1 hour's work} = \frac{1}{4}$$

$$(\text{B} + \text{C})\text{'s 1 hour's work} = \frac{1}{3}$$

$$(\text{A} + \text{C})\text{'s 1 hour's work} = \frac{1}{2}$$

$$(\text{A} + \text{B} + \text{C})\text{'s 1 hour's work} = \left(\frac{1}{4} + \frac{1}{3}\right) = \frac{7}{12}$$

$$\text{B's 1 hour's work} = \left(\frac{7}{12} - \frac{1}{2}\right) = \frac{1}{12}$$

B alone will take 12 hours to do the work.

17. Answer: Option A

Explanation:

Let the sum invested in Scheme A be Rs. x and that in Scheme B be Rs.

$$(13900 - x)$$

$$\text{Then, } \left(\frac{x \times 14 \times 2}{100}\right) + \left(\frac{(13900 - x) \times 11 \times 2}{100}\right) = 3508$$

$$\Rightarrow 28x - 22x = 350800 - (13900 \times 22)$$

$$\Rightarrow 6x = 45000$$

$$\Rightarrow x = 7500.$$

So, sum invested in Scheme B = Rs. $(13900 - 7500) = \text{Rs. } 6400.$

18. Answer: Option A

Explanation:

$$\text{Amount} = \text{Rs. } (30000 + 4347) = \text{Rs. } 34347.$$

Let the time be n years.

$$\text{Then, } 30000 \left(1 + \frac{7}{100}\right)^n = 34347$$

$$\Rightarrow \left(\frac{107}{100}\right)^n = \frac{34347}{30000} = \frac{11449}{10000} = \left(\frac{107}{100}\right)^2$$

$$n = 2 \text{ years.}$$

19. Answer: Option A

Explanation:

Let the actual distance travelled be x km.

$$\text{Then, } \frac{x}{10} = \frac{x+20}{14}$$

$$\Rightarrow 14x = 10x + 200$$

$$\Rightarrow 4x = 200$$

$$\Rightarrow x = 50 \text{ km.}$$

$$\begin{aligned} \therefore \text{Ratio of first two numbers} &= \left(\frac{6x}{5} : \frac{3x}{2}\right) \\ &= 12x : 15x = 4 : 5 \end{aligned}$$

20. Answer: Option A

Explanation:

Total number of balls = $(8 + 7 + 6) = 21$.

Let E = event that the ball drawn is neither red nor green

= event that the ball drawn is blue.

$$\therefore n(E) = 7.$$

$$\therefore P(E) = \frac{n(E)}{n(S)} = \frac{7}{21} = \frac{1}{3}$$

21. Answer: Option A

Explanation:

Let S be the sample space and E be the event of selecting 1 girl and 2 boys.

Then, $n(S)$ = Number ways of selecting 3 students out of 25

$$= {}^{25}C_3$$

$$= \frac{(25 \times 24 \times 23)}{(3 \times 2 \times 1)}$$

$$= 2300.$$

$$n(E) = ({}^{10}C_1 \times {}^{15}C_2)$$

$$= \left[10 \times \frac{(15 \times 14)}{(2 \times 1)}\right]$$

$$= 1050.$$

$$\therefore P(E) = \frac{n(E)}{n(S)} = \frac{1050}{2300} = \frac{21}{46}$$

22. Answer: Option D

Explanation:

Work done by the leak in 1 hour

$$= \left(\frac{1}{5} - \frac{3}{7}\right) = \frac{1}{35}$$

Leak will empty the tank in 14 hrs.

23. Answer: Option C

Explanation:

Let the third number be x .

Then, first number = 120% of x

$$= \frac{120X}{100} = \frac{6X}{5}$$

Second number = 150% of x

$$= \frac{150X}{100} = \frac{3X}{2}$$

24. Answer: Option B

Explanation:

$$\begin{aligned} (112 \times 5^4) &= 112 \times \left(\frac{10}{2}\right)^4 = \frac{112 \times 10^4}{2^4} = \\ \frac{1120000}{16} &= 70000 \end{aligned}$$

25. Answer: Option C

Explanation:

The word 'LEADER' contains 6 letters, namely 1L, 2E, 1A, 1D and 1R.

∴ Required number of ways

$$= \frac{6!}{(1!)(2!)(1!)(1!)(1!)} = 360$$

26. Answer: Option B

Explanation:

This is an alternating number subtraction series. First, 2 is subtracted, then 4, then 2, and so on.

27. Answer: Option B

Explanation:

This is a simple subtraction series. Each number is 6 less than the previous number.

28. Answer: Option C

Explanation:

As Ornithologist is a specialist of Birds similarly Archeologist is a specialist of Archeology.

29. Answer: Option B

Explanation:

As Diamond is made of Carbon similarly Ruby is made of Corundum.

30. Answer: Option C

Explanation:

All except Oil are products obtained from milk.

31. Answer: Option E

Explanation:

All except Chalk are obtained from crops.

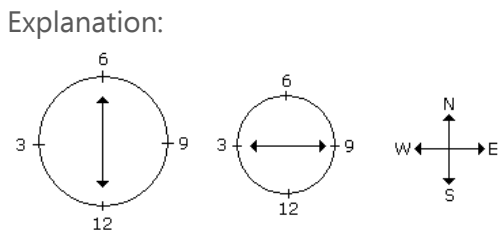
32. Answer: Option D

Explanation:
Because the sex of O is not known.

33. Answer: Option A

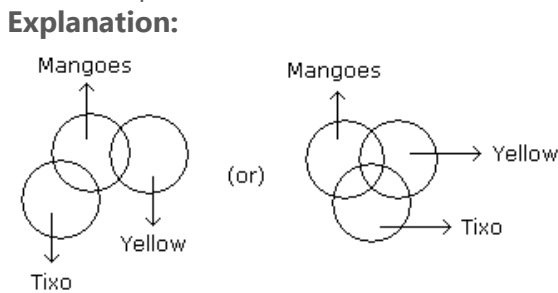
Explanation:
 $M \times N \rightarrow M$ is the mother of N
 $N \% S \rightarrow N$ is the wife of S
and $S + T \rightarrow$ is the father of T .
Hence, M is the maternal grandmother of T .

34. Answer: Option D



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

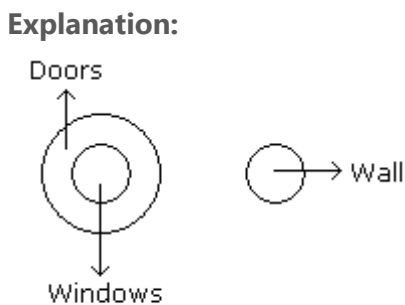
35. Answer: Option D



None of the two follows.

36. Answer: Option B

Explanation: Explanation:



Only (2) follows.

37. Answer: Option A

Explanation:

Clearly, harnessing solar energy will be helpful as it is an inexhaustible resource unlike other resources. So, argument I holds. But argument II is vague as solar energy is the cheapest form of energy.

38. Answer: Option E

Explanation:
Clearly, encouraging the young entrepreneurs will open up the field for the establishment of new industries. Thus, it shall help in industrial development and not only employ the entrepreneurs but create more job opportunities for others as well. So, both the arguments hold strong.

39. Answer: Option E

Explanation:
Clearly, the penalty is imposed to prevent people from misusing the alarm chain. This means that some people misuse it. So, I is implicit. The alarm chain is provided to stop the running train in times of urgency. So, II is also implicit.

40. Answer: Option A

Explanation:
The statement mentions that concessions should not be given to people who can afford to spend holidays in hill stations. This means they should be given only to needy persons. So, I is implicit. But, II does not follow from the statement and is not implicit.

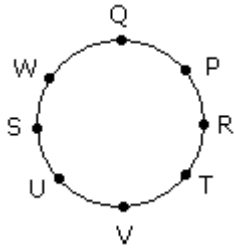
41. Answer: Option A

Explanation:
In each row, the third figure comprises of a black circle and only those line segments which are not common to the first and the second figures.

42. Answer: Option C

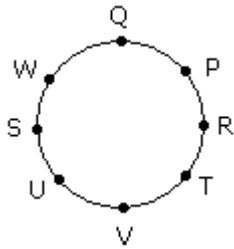
Explanation:
The third figure in each row comprises of the parts common to the first two figures.

43. Answer: Option D
Explanation:



The horizontal lines are IJ, AB, EF, MN, HG, DC and LK i.e. 7 in number.
The vertical lines are AD, EH, IL, FG, BC and JK i.e. 6 in number.
Thus, there are $7 + 6 = 13$ straight lines in the figure.

44. Answer: Option C
Explanation:



55. Answer: Option C
Explanation:

Let x and y be the ten's and unit's digits respectively of the numeral denoting the woman's age.
Then, woman's age = $(10x + y)$ years;
husband's age = $(10y + x)$ years.
Therefore $(10y + x) - (10x + y) = (1/11)(10y + x + 10x + y)$
 $(9y - 9x) = (1/11)(11y + 11x) = (x + y)$
 $10x = 8y$
 $x = (4/5)y$

45. Answer: Option B

46. Answer: Option B

47. Answer: Option A

48. Answer: Option B

49. Answer: Option B

50. Answer: Option D

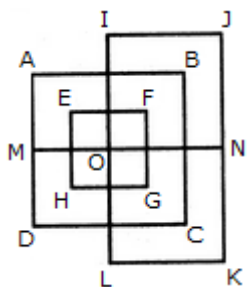
51. Answer: Option D

52. Answer: Option C

53. Answer: Option B

54. Answer: Option A
Explanation:

The figure may be labelled as shown.



Clearly, y should be a single-digit multiple of 5, which is 5.
So, $x = 4, y = 5$.
Hence, woman's age = $10x + y = 45$ years.

56. Answer: Option C
Explanation:

Since B and D are twins, so $B = D$.
Now, $A = B + 3$ and $A = C - 3$.
Thus, $B + 3 = C - 3$ $D + 3 = C - 3$ $C - D = 6$.

57. Answer: Option B
Explanation:

The correct order is :

Pressure	Rain	Flood
2	4	5
Protect Relief		
1	3	

58. Answer: Option B
Explanation:

The correct order is :
Skull Face Neck Shoulder Hand

3 9 4 2 10

Chest Stomach Thigh Knee

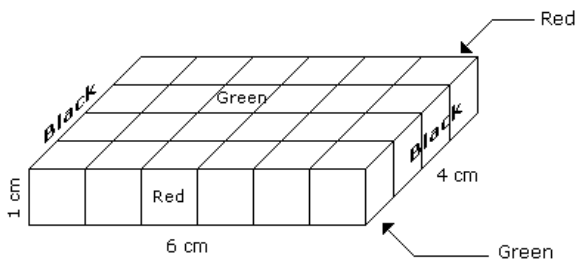
6 8 7 5

Heel

1

59. Answer: Option C

Explanation



There are 16 small cubes attached to the outer walls of the cuboid.

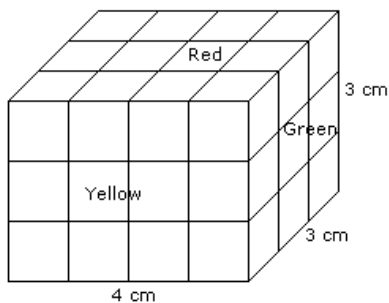
Therefore remaining inner small cubes will be the cubes having two sides green coloured.

So the required number

$$= 24 - 16 = 8$$

60. Answer: Option A

Explanation:



Number of small cubes having only one face coloured = $2 \times 2 + 2 \times 2 + 2 \times 1$

$$= 4 + 4 + 2$$

$$= 10$$

61. Answer: Option B

Explanation:

The series consists of squares and cubes of consecutive natural numbers i.e. 12, 13, 22, 23, 32, 33, 42,

So, missing term = $43 = 64$.

62. Answer: Option B

Explanation:

The pattern is $\times 2, \times 3/2, \times 2, \times 3/2, \times 2, \dots$

So, missing term = $18 \times 3/2 = 27$.

63. Answer: Option C

Explanation:

The first letters are in alphabetical order with a letter skipped in between each segment: C, E, G, I, K. The second and third letters are repeated; they are also in order with a skipped letter: M, O, Q, S, U.

64. Answer: Option A

Explanation:

This series consists of a simple alphabetical order with the first two letters of all segments: B, C, D, E, F, G, H, I, J, K. The third letter of each segment is a repetition of the first letter.

65. Answer: Option C

Explanation:

In this simple alternating subtraction and addition series; 1 is subtracted, then 2 is added, and so on.

66. Answer: Option C

67. Answer: Option c

68. Answer: Option A

69. Answer: Option A

70. Answer: Option C

-
71. Answer: Option D
72. Answer: Option C
73. Answer: Option B
74. Answer: Option C
Explanation:
I would have helped him
75. Answer: Option B
Explanation:
expressed doubt that
76. Answer: Option C
77. Answer: Option B
78. Answer: Option C
79. Answer: Option D
80. Answer: Option D
81. Answer: Option D
82. Answer: Option B
83. Answer: Option A
84. Answer: Option D
85. Answer: Option D
86. Answer: Option C
87. Answer: Option B
88. Answer: Option C
89. Answer: Option D
90. Answer: Option C
91. Answer: Option C
92. Answer: Option E
Explanation:
"We had heard of him."
93. Answer: Option C
Explanation:
"Have you seen my bag?"
94. Answer: Option C
95. Answer: Option D
96. Answer: Option A
97. Answer: Option B
98. Answer: Option A
99. Answer: Option B
100. Answer: Option D
101. Answer: Option B
102. Answer: Option D
103. Answer: Option B
104. Answer: Option B
105. Answer: Option B
106. Answer: Option B
107. Answer: Option B
108. Answer: Option C

109. Answer: Option A two in 1992 (4x100m and long jump), and one in 1996 (long jump).
110. Answer: Option A
111. Answer: Option D
112. Answer: Option C
113. Answer: Option C
114. Answer: Option B
115. Answer: Option A
116. Answer: Option A
Explanation:
The head of the military was called the Mir Bakshi, appointed from among the leading nobles of the court. The Mir Bakshi was in charge of intelligence gathering, and also made recommendations to the emperor for military appointments and promotions.
117. Answer: Option D
118. Answer: Option B
119. Answer: Option D
120. Answer: Option A
121. Answer: Option B
122. Answer: Option B
123. Answer: Option C
124. Answer: Option C
Explanation:
Lewis has won nine Olympic gold medals in all: four in 1984 (100m, 200m, 4x100m, long jump), two in 1988 (100m and long jump),
125. Answer: Option D
126. Answer: Option A
127. Answer: Option A
128. Answer: Option B
129. Answer: Option C
130. Answer: Option A
131. Answer: Option B
132. Answer: Option A
133. Answer: Option C
134. Answer: Option B
135. Answer: Option D
136. Answer: Option A
137. Answer: Option C
138. Answer: Option A
139. Answer: Option A
140. Answer: Option A
141. Answer: Option A
142. Answer: Option D
143. Answer: Option A
144. Answer: Option A
145. Answer: Option A
146. Answer: Option D

147. Answer: Option B

148. Answer: Option C

149. Answer: Option C

150. Answer: Option C