



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  
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THE CREATIVE LEADERS-INDIA2018



1. Answer: Option D  
Explanation:  
Quantity of pure acid  
 $= 8 \times \frac{20}{100} = 1.6$
2. Answer: Option D  
Explanation:  
Let number of girls = x  
number of boys = 8x  
Then, total number of student  
 $= x + 8x = 9x$   
i.e., total number of students must be a multiple of 9. In the given choices, 42 is not a multiple of 9  
Hence, total number of students cannot be 42
3. Answer: Option B  
Explanation:  
All the 7 civil engineers are always together.  
Hence, group all the 7 civil engineers and consider as a single civil engineer. Hence, we can take total number of engineers as 12. These 12 engineers can be arranged in 12! ways ...(A)  
We had grouped 7 civil engineers. These 7 civil engineers can be arranged among themselves in 7! ways ...(B)  
From (A) and (B),  
required number of ways  $= 12! \times 7!$
4. Answer: Option D  
Explanation:  
We do not have the number of boys and girls. Hence we cannot find out the answer.
5. Answer: Option B  
Explanation:  
cost price = 80000 + 5000 + 1000  
 $= 86000$   
Profit = 25%
- Selling price =  $86000 + 86000 \times \frac{1}{4}$   
 $= 107500$
6. Answer: Option D  
Explanation:  
Total age of husband and wife (at the time of their marriage) =  $2 \times 23 = 46$   
Total age of husband and wife after 5 years + Age of the 1 year old child  
 $= 46 + 5 + 5 + 1 = 57$   
Average age of the family =  $\frac{57}{3} = 19$
7. Answer: Option C  
Explanation:  
Pages typed by Anil in 1 hour  
 $= 32/6 = 16/3$   
  
Pages typed by Suresh in 1 hour  
 $= 40/5 = 8$   
Pages typed by Anil and Suresh in 1 hour =  $16/3 + 8 = 40/3$   
Time taken to type 110 pages when Anil and Suresh work together  
 $= 110 \times 3 / 40 = 33/4$   
 $= 8 \frac{1}{4}$  hours = 8 hour 15 minutes
8. Explanation:  
LCM of 252, 308 and 198 = 2772  
Hence they all will be again at the starting point after 2772 seconds.  
i.e., after 46 minutes 12 seconds.
9. Answer: Option A  
Explanation:  
loss percent =  $\left(\frac{5}{10}\right)^2 = 0.25\%$
10. Answer: Option D  
Explanation:  
Sum of 5 numbers =  $5 \times 27$   
Sum of 4 numbers after excluding one number =  $4 \times 25$

$$\begin{aligned} \text{Excluded number} \\ &= 5 \times 27 - 4 \times 25 \\ &= 135 - 100 = 35 \end{aligned}$$

11. Answer: Option B

Explanation:

$$\text{Work done by P in 1 day} = 1/20$$

$$\text{Work done by Q in 1 day} = 1/12$$

$$\text{Work done by P in 4 days}$$

$$= 4 \times (1/20) = 1/5$$

$$\text{Remaining work} = 1 - 1/5 = 4/5$$

$$\text{Work done by P and Q in 1 day}$$

$$= 1/20 + 1/12 = 8/60 = 2/15$$

Number of days P and Q take to complete the remaining work

$$= (4/5) / (2/15) = 6$$

$$\text{Total days} = 4 + 6 = 10$$

12. Answer: Option A

Explanation:

Age of Sobha's father when Sobha was born

$$= 38$$

Age of Sobha's mother when Sobha was born

$$= 36 - 4 = 32$$

Required difference of age

$$= 38 - 32 = 6$$

13. Answer: Option C

Explanation:

Let present age of the mother =  $5x$

Then, present age of the person =  $2x$

$$5x + 8 = 2(2x + 8)$$

$$5x + 8 = 4x + 16$$

$$x = 8$$

$$\text{Present age of the mother} = 5x = 40$$

14. Answer: Option D

Explanation:

$$\text{Relative Speed} = (120 + 80)$$

$$= 200 \text{ km/hr}$$

$$= 200 \times \frac{5}{18} = \frac{500}{9} \text{ m/s}$$

Time = 9 seconds

$$\text{Distance covered} = \frac{550}{9} \times 9 = 500 \text{ metre}$$

Length of other train

$$= (500 - 270) = 230 \text{ metre}$$

15. Answer: Option C

Explanation:

Then number  $6 \times 2$  must be divisible by 8.

$\therefore x = 3$ , as 632 is divisible 8.

16. Answer: Option C

Explanation:

Let sum be P

$$P = \left(1 + \frac{R}{100}\right)^T = 5458.32$$

$$P = \left(1 + \frac{14}{100}\right)^{20} = 5458.32$$

$$P = \left(\frac{114}{100}\right)^2 = 5458.32$$

$$P = \frac{5458.32 \times 100 \times 100}{114 \times 114} = \frac{47.88 \times 100 \times 100}{114}$$

$$= 0.42 \times 100 \times 100 \times 4200$$

17. Answer: Option D

Explanation:

Y is 10% more than 125

$$\Rightarrow y = 125 + 12.5 = 137.5$$

x is 10% less than y

$$\Rightarrow x = 137.5 - 13.75 = 123.75$$

18. Answer: Option C

Explanation:

water filled by the inlet pipe in 24 hours

= water emptied by the leak in 24 - 6 =

18 hours.

Therefore, water emptied by the leak in 6 hours

= water filled by the inlet pipe in 8 hours

i.e., capacity of the tank

= water filled by the inlet pipe in

8 hours

$$= 8 \times 60 \times 4 = 1920 \text{ litre.}$$

19. Answer: Option D

Explanation:

80 % of cost price = 9

$$105\% \text{ of cost price} = \frac{9 \times 105}{80} = 11.81$$

20. Answer: Option D

Explanation:

1.5 times the length of the first train

$$= (48+42) \times 518 \times 12 = 300 \text{ metre}$$

⇒ Length of the first train = 200 metre

Distance covered by the first train  
in 45 seconds

$$= 48 \times \frac{5}{18} \times 45 = 600 \text{ metre}$$

Therefore, length of the platform

$$= 600 - 200 = 400 \text{ metre}$$

Work done by 16 men in 1 day =  $1/15$

Work done by 1 man in 1 day

$$= 1/(15 \times 16)$$

Ratio of the capacity of a man and woman

$$= 1/(15 \times 16) : 1/(16 \times 20)$$

$$= 1/15 : 1/20 = 1/3 : 1/4 = 4:3$$

24. Answer: Option C

Explanation:

$$\text{Let } 40\% \text{ of } A = \frac{2}{3} B$$

$$\text{Then, } \frac{40A}{100} = \frac{2B}{3}$$

$$\Rightarrow \frac{2A}{5} = \frac{2B}{3}$$

$$\Rightarrow \frac{A}{B} = \left( \frac{2}{3} \times \frac{5}{2} \right) = \frac{5}{3}$$

$$\therefore A : B = 5 : 3.$$

21. Answer: Option C

Explanation:

Let total number of men = 100

Then, 20 men play football.

20 men are less than or equal to 50 years  
old.

Remaining 20 men are above 50 years old.

Number of football players above 50 years

$$\text{old} = 20 \times \frac{20}{100} = 4$$

Number of football players less than or  
equal to 50 years old =  $20 - 4 = 16$

$$\text{Required percentage} = \frac{16}{20} \times 100 = 80\%$$

25. Answer: Option D

Explanation:

Total number of alphabets,  $n(S) = 26$

Total number of characters which are not  
vowels,  $n(E) = 21$

$$\therefore P(E) = \frac{n(E)}{n(S)} = \frac{21}{26}$$

26. Answer: Option D

Explanation:

The correct order is:

Infant	Child	Boy	Adolescent	Adult
3	2	4	5	1

22. Answer: Option D

Explanation:

$$\text{Speed} = \frac{\text{distance}}{\text{time}} = \frac{200}{24} \text{ m/s}$$

$$= \frac{200}{24} \times \frac{18}{5} \text{ km/hr}$$

$$= \frac{40 \times 3}{4} \text{ km/hr} = 30 \text{ km/hr}$$

27. Answer: Option A

Explanation:

All except Reader are persons involved in  
the preparation of a journal, newspaper or  
magazine.

23. Answer: Option B

Explanation:

Work done by 20 women in 1 day

$$= 1/16$$

Work done by 1 woman in 1 day

$$= 1/(16 \times 20)$$

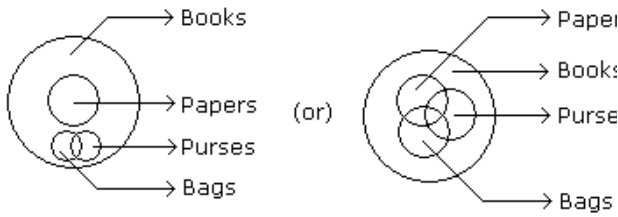
28. Answer: Option E

Explanation:

All except Fox are domestic animals, while  
fox is a wild animal.

29. Answer: Option C

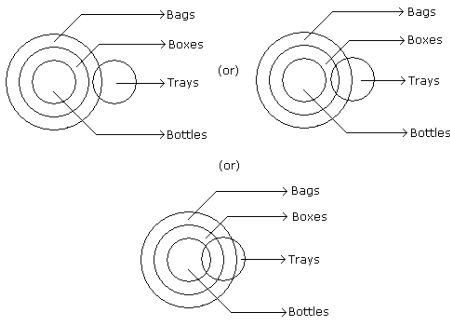
- Explanation:  
 Father of Deepak's daughter's father →  
 Deepak's father.  
 Hence, the person in the brother of  
 Deepak's father.  
 Therefore, the person is the uncle of  
 Deepak.
30. Answer: Option A  
 Explanation:  
 P @ Q → P is the wife of Q ...(1)  
 Q \$ T → Q is the brother of T ...(2)  
 T # U → T is the daughter of U  
 Hence, → Q is the son of U ...(3)  
 U \* W → U is the father of W.  
 From (1) and (3), U is the father-in-law of P.
31. Answer: Option D  
 Explanation:  
 This is a simple addition series with a  
 random number, 8, interpolated as every  
 other number. In the series, 6 is added to  
 each number except 8, to arrive at the next  
 number.
32. Answer: Option 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
33. Answer: Option C  
 Explanation:  
 The second figure is obtained from the first  
 figure by moving the line segment to the  
 opposite side of the square boundary and  
 replacing it with two similar line segments.  
 Also, the element in the lower-left corner  
 gets replaced by two similar elements - one  
 placed in the upper-left and the other  
 placed in the lower-right corner.
34. Answer: Option C  
 Explanation:  
 The second figure is a part of the first figure  
 (but is not exactly the same as the first  
 figure).
35. Answer: Option C
36. Answer: Option B
37. Answer: Option A  
 Explanation:  
 From the first two statements, you know  
 that the Kingston Mall has the most stores,  
 so the Kingston Mall would have more  
 stores than the Four Corners Mall.
38. Answer: Option A  
 Explanation:  
 According to the first two statements, Fido  
 weighs the most and Boomer weighs the  
 least.
39. Answer: Option C  
 Explanation:  
 As effect of Ice is coldness similarly the  
 effect of Earth is gravitation.
40. Answer: Option B  
 Explanation:  
 As Physician does the treatment similarly  
 Judge delivers the judgement.
41. Answer: Option C
42. Answer: Option C
43. Answer: Option B  
 Explanation:



Only (2) and (3) follows.

44. Answer: Option A

Explanation:



Only (3) and (4) follow.

45. Answer: Option A

46. Answer: Option C

47. Answer: Option C

Explanation:

This is an alternating series. In the first segment, the letter "E" faces right, then down, then right. In the second segment, the letters all face down. To follow this pattern, in the fourth segment, the letters must all face up.

48. Answer: Option D

Explanation:

This sequence concerns the number of sides on each figure. In the first segment, the three figures have one side, and then two sides, and then three sides. In the second segment, the number of sides increases and

then decreases. In the third segment, the number of sides continues to decrease.

49. Answer: Option A

Explanation:

Clearly, the comparison could not be made without knowing the sale of all the radio sets. So, I is implicit. The statement mentions only that the sale is largest and nothing is mentioned about the manufacture. So, II is not implicit.

50. Answer: Option B

Explanation:

The statement presents the issue of 'not reaching airport in time' as a problem. This means that reaching airport in time is necessary. So, I is not implicit. Besides, it is mentioned that reaching airport in time has become difficult due to large number of potholes in road X. This implies that road X is the only possible way. So, II is implicit.

51. Answer: Option D

Explanation:

Clearly, foreign films depict the alien culture but this only helps in learning more. So, argument I does not hold. Also, the reason stated in argument II is not strong enough in contradicting the ban. So, it also does not hold.

52. Answer: Option A

Explanation:

Clearly, government jobs in rural areas are underlined with several difficulties. In lieu of these, extra incentives are needed. So, only argument I holds strong.

53. Answer: Option D

Explanation:

The pattern is  $x 1 + 1, x 2 + 2, x 3 + 3, x 4 + 4, \dots$   
 So, missing term  
 $= 112 \times 5 + 5 = 565.$

54. Answer: Option A

Explanation:

Let the missing terms of the series be  $x_1$  and  $x_2$ .

Thus, the sequence 20, 20, 19, 16, 17, 13, 14, 11,  $x_1, x_2$  is a combination of two series :

I. 20, 19, 17, 14,  $x_1$  and II. 20, 16, 13, 11,  $x_2$

The pattern in I is  $- 1, - 2, - 3, \dots$ . So, missing term,  $x_1 = 14 - 4 = 10.$

The pattern in II is  $- 4, - 3, - 2, \dots$ . So, missing term,  $x_2 = 11 - 1 = 10.$

55. Answer: Option A

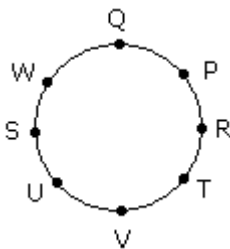
Explanation:

The pattern is  $- 1, x 10 + 1, - 1, x 10 + 1, - 1, x 10 + 1, \dots$

So, missing term  
 $= 10 \times 10 + 1 = 101.$

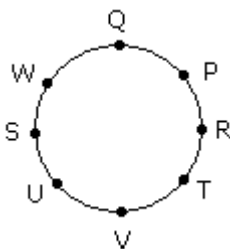
56. Answer: Option A

Explanation:



57. Answer: Option C

Explanation:



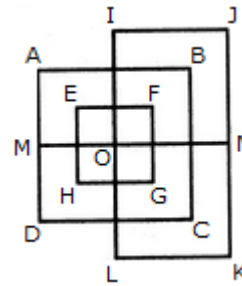
58. Answer: Option C

59. Answer: Option A

60. Answer: Option A

Explanation:

The figure may be labelled as shown.



The horizontal lines are IJ, AB, EF, MN, HG, DC and LK i.e. 7 in number.

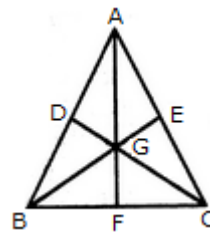
The vertical lines are AD, EH, IL, FG, BC and JK i.e. 6 in number.

Thus, there are  $7 + 6 = 13$  straight lines in the figure.

61. Answer: Option A

Explanation:

The figure may be labelled as shown.



The simplest triangles are AGE, EGC, GFC, BGF, DGB and ADG i.e. 6 in number.

The triangles composed of two components each are AGC, BGC and ABG i.e. 3 in number.

The triangles composed of three components each are AFC, BEC, BDC, ABF, ABE and DAC i.e. 6 in number.

There is only one triangle i.e. ABC composed of six components.

Thus, there are  $6 + 3 + 6 + 1 = 16$  triangles in the given figure.

62. Answer: Option B

Explanation:

L.C.M. of 6, 5, 7, 10 and 12 is 420.

So, the bells will toll together after every 420 seconds i.e. 7 minutes.

Now,  $7 \times 8 = 56$  and  $7 \times 9 = 63$ .

Thus, in 1-hour (or 60 minutes), the bells will toll together 8 times, excluding the one at the start.

63. Answer: Option B

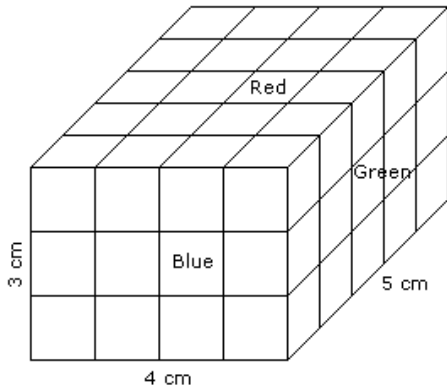
Explanation:

Since each pole at the corner of the plot is common to its two sides, so we have:

Total number of poles needed  
 $= 27 \times 4 - 4 = 108 - 4 = 104$ .

64. Answer: Option D

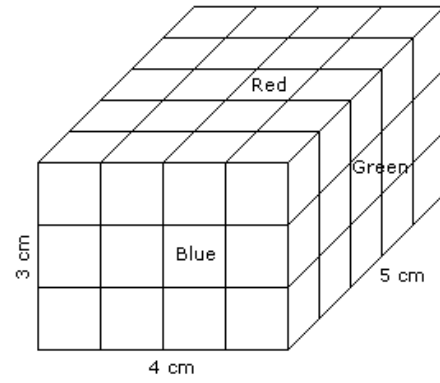
Explanation:



Required number of small cubes  
 $= (5 - 2) \times (4 - 2) \times (3 - 2)$   
 $= 3 \times 2 \times 1$   
 $= 6$

65. Answer: Option A

Explanation:



Required number of small cubes = 6 from the top and 6 from the bottom  
 $= 12$

66. Answer: Option B

67. Answer: Option A

68. Answer: Option B

69. Answer: Option C

70. Answer: Option C

71. Answer: Option B

72. Answer: Option B

73. Answer: Option C

74. Answer: Option C

75. Answer: Option A

76. Answer: Option B

77. Answer: Option D

78. Answer: Option C

79. Answer: Option D



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80. Answer: Option B
81. Answer: Option C
82. Answer: Option B
83. Answer: Option A
84. Answer: Option C
85. Answer: Option A
86. Answer: Option C
87. Answer: Option C  
Explanation:  
between you and me
88. Answer: Option C
89. Answer: Option A
90. Answer: Option C
91. Answer: Option C
92. Answer: Option C
93. Answer: Option B
94. Answer: Option A
95. Answer: Option E
96. Answer: Option A
97. Answer: Option A
98. Answer: Option C
99. Answer: Option D
100. Answer: Option D
101. Answer: Option C
102. Answer: Option A
103. Answer: Option C
104. Answer: Option B
105. Answer: Option C
106. Answer: Option B
107. Answer: Option C
108. Answer: Option A
109. Answer: Option B  
Explanation:  
Will Keith Kellogg discovered the corn flake,  
by mistake, in 1906. They were the result of  
an experiment which went wrong.
110. Answer: Option B
111. Answer: Option C
112. Answer: Option A
113. Answer: Option D
114. Answer: Option A
115. Answer: Option C
116. Answer: Option C
117. Answer: Option B

118. Answer: Option B
119. Answer: Option A
120. Answer: Option C
121. Answer: Option B
122. Answer: Option C
123. Answer: Option A
124. Answer: Option A
125. Answer: Option C
126. Answer: Option A  
Explanation:  
UPS stands for Uninterruptible Power Supply. Examples of equipment that may require a UPS supply are computers, fire detection systems, hospital operating theatre equipment and escape route lighting.
127. Answer: Option D
128. Answer: Option B
129. Answer: Option D
130. Answer: Option C
131. Answer: Option C
132. Answer: Option B
133. Answer: Option B
134. Answer: Option C
135. Answer: Option A  
Explanation:  
Ravi Shastri once hit spinner Tilak Raj for 6 sixes in an over in a First Class match.
136. Answer: Option D
137. Answer: Option B
138. Answer: Option C
139. Answer: Option D
140. Answer: Option C
141. Answer: Option A
142. Answer: Option C
143. Answer: Option D
144. Answer: Option A
145. Answer: Option B
146. Answer: Option B
147. Answer: Option D
148. Answer: Option A
149. Answer: Option C
150. Answer: Option