



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 B  
Explanation:  
Given A alone can fill the tank of capacity 240 lit in 16 hrs.  
 $\Rightarrow$  A can fill in 1 hr =  $240/16 = 15$  lit  
 $\Rightarrow$  B alone can fill the tank of capacity 240 lit in 12 hrs.  
 $\Rightarrow$  B can fill in 1 hr =  $240/12 = 20$  lit  
Now, (A + B) in 1 hr =  $15 + 20 = 35$  lit  
But they are opened for 2 hrs  
 $\Rightarrow 2 \times 35 = 70$  lit rae filled  
Remaining water to be filled in tank of 240 lit =  $240 - 70 = 170$  lit.
2. Answer: Option B  
Explanation:  
 $4 \times 27 \times 3125 = 2^2 \times 3^3 \times 5^5$  ;  
 $8 \times 9 \times 25 \times 7 = 2^3 \times 3^2 \times 5^2 \times 7$   
 $16 \times 81 \times 5 \times 11 \times 49 = 2^4 \times 3^4 \times 5 \times 11 \times 7^2$   
H.C.F =  $2^2 \times 3^2 \times 5 = 180$ .
3. Answer: Option B  
Explanation:  
Net growth on 1000 =  $(32 - 11) = 21$ . Net growth on 100 =  $(21/1000 * 100) \% = 2.1\%$ .
4. Answer: Option C  
Explanation:  
Let Siya's age = x  
Then Riya's age = 4x  
But given Riya's age = 24  
 $\Rightarrow 4x = 24 \Rightarrow x = 6$   
Hence Siya's age = 6 yrs  
 $\Rightarrow$  The age difference =  $24 - 6 = 18$  yrs.
5. Answer: Option A  
Explanation:  
If you double the sides of a cube, the ratio of the surface areas of the old and new cubes will be 1: 4. The ratio of the volumes of the old and new cubes will be 1: 8.
- Weight is proportional to volume. So, If the first weighs 6 pounds, the second weighs  $6 \times 8$  pounds = 48.
6. Answer: Option B  
Explanation:  
Excluded number =  $(27 \times 5) - (25 \times 4) = 135 - 100 = 35$ .
7. Answer: Option B  
Explanation:  
 $P \left(1 + \frac{20}{100}\right)^n > 2P \Leftrightarrow \left(\frac{6}{5}\right)^n > 2$   
 $\left(\frac{6}{5} \times \frac{6}{5} \times \frac{6}{5} \times \frac{6}{5}\right) > 2$   
so, answer is 4 years
8. Answer: Option C  
Explanation:  
 $(20 \times 18)$  men can complete the work in in one day.  
one man's one day work =  $1/360$   
 $(18 \times 15)$  women can complete the work in 1 day  
1 woman's one day work =  $1/270$   
So, required ratio =  $\frac{1}{270} : \frac{1}{360} = 4:3$
9. Answer: Option D  
Explanation:  
Cannot be determined
10. Answer Option A  
Explanation:  
Let C.P.= Rs. 100.  
Then, Profit = Rs. 320,  
S.P. = Rs. 420.  
New C.P. = 125% of Rs. 100 = Rs. 125  
New S.P. = Rs. 420.  
Profit = Rs.  $(420 - 125) =$  Rs. 295  
Required percentage =  $(295/420) * 100 = 70\%$  (approx)

11. Answer: Option B  
 Explanation:  
 Let the numbers be  $3x, 4x, 5x$ .  
 Then, their L.C.M =  $60x$ .  
 So,  $60x=3600$  or  $x=60$ .  
 Therefore, The numbers are  $(3 \times 60), (4 \times 60), (5 \times 60)$ .  
 Hence, required H.C.F= $60$
12. 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.  
 Husband's present age =  $(90 - 50)$  years = 40 years.
13. Answer: Option C  
 Explanation:  
 Let the article costs 'X' to A  
 Cost price of B =  $1.2X$   
 Cost price of C =  $0.75(1.2X) = 0.9X$   
 Cost price of D =  $1.4(0.9X) = 1.26X = 252$   
 Amount paid by A for the article = Rs. 200.
14. Answer: Option A  
 Explanation:  
 $29 \times 2 = 58$   
 $20 \times 3 = 60$   
 -----  
                   2 years  
 Therefore, the age of child is 2 years.
15. Answer: Option D  
 Explanation:  
 The CP of profitable cow  
 =  $9900/1.1 = 9000$   
 and profit = Rs. 900  
 The CP of loss yielding cow  
 =  $9900/0.8 = 12375$   
 and loss = Rs. 2475
- so, the net loss =  $2475 - 900$   
 = 1575
16. Answer  
 Suppose the ages of Ashok, Deepak and Ramu are  $3x, 5x$  and  $6x$  years respectively.  
 Hence, Ashok's age = 15 years
17. Answer: Option C  
 Explanation:  
 A can do the work = 18 days  
 B can do the work =  $18/2 = 9$  days  
 (A + B)'s 1 day work =  $1/18 + 1/9 = 1/6$   
 $\Rightarrow$  In 3 days =  $3 \times 1/6 = 1/2$  work is completed.
18. Answer: Option A  
 Explanation:  
 We have:  $x + (x\% \text{ of } 150) = 150$   
 $\Rightarrow x + (x/100) \times 150 = 150$   
 $\Rightarrow \frac{5}{2}x = 150$   
 $\Rightarrow x = (150 \times 2)/5 = 60$
19. Answer: Option B  
 Explanation:  
 Let the number of correct answers be X.  
 Number of incorrect answers =  $(60 - X)$ .  
 Therefore,  $4x - (60 - x) = 130$   
 $\Rightarrow 5x = 190 \Rightarrow x = 38$
20. Answer Option B  
 Explanation:  
 Suppose A, B and C take  $x, x/2$  and  $x/3$  respectively to finish the work.  
 Then,  $(1/x + 2/x + 3/x) = 1/2$   
 $6/x = 1/2 \Rightarrow x = 12$   
 So, B takes 6 hours to finish the work.
21. Answer: Option B  
 Explanation:

Let the distance and original speed be 'd' km and 'k' kmph respectively.

$$d/0.8k - d/k = 20/60 \Rightarrow 5d/4k - d/k = 1/3$$

$$\Rightarrow (5d - 4d)/4k = 1/3 \Rightarrow d = 4/3 k$$

Time taken to cover the distance at original speed

$$= d/k = 4/3 \text{ hours} = 1 \text{ hour } 20 \text{ minutes.}$$

Explanation:

Man's rate in still water =  $(15 - 2.5)$  km/hr = 12.5 km/hr.

Therefore, Man's rate against the current =  $(12.5 - 2.5) = 10$  km/hr.

22. Answer: Option B

Explanation:

3 letters can be chosen out of 9 letters in  ${}^9C_3$  ways.

More than one vowels ( 2 vowels + 1 consonant or 3 vowels ) can be chosen in  $(4C_2 * 5C_1) + 4C_3$  ways

Hence, required probability

$$= \frac{(4C_2 * 5C_1) + 4C_3}{9C_3} = 17/42$$

23. Answer: Option A

Explanation:

Total number of balls =  $(2 + 3 + 2) = 7$ .

Let S be the sample space.

Then,  $n(S) =$  Number of ways of drawing 2 balls out of 7 =  ${}^7C_2 = 21$

Let E = Event of drawing 2 balls, none of which is blue.

$n(E) =$  Number of ways of drawing 2 balls out of  $(2 + 3)$  balls =  ${}^5C_2 = 10$

Therefore,  $P(E) = n(E)/n(S) = 10/21$ .

24. Answer: Option A

Explanation:

Since each ring consists of six different letters, the total number of attempts possible with the three rings is  $= 6 \times 6 \times 6 = 216$ . Of these attempts, one of them is a successful attempt.

Maximum number of unsuccessful attempts =  $216 - 1 = 215$ .

25. Answer: Option B

26. Answer: Option D

Explanation:

The pattern is  $x \ 1, x \ 2, x \ 3, x \ 4, \dots$

So, missing term =  $24 \times 5 = 120$ .

27. Answer: Option B

Explanation:

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

Thus, the sequence 2, 15, 4, 12, 6, 7,  $x_1 \ x_2$  is a combination of two series :

I. 2, 4, 6,  $x_1$  and II. 15, 12, 7,  $x_2$  consists of consecutive even numbers.

So, missing term,  $x_1 = 8$ .

The pattern in II is - 3, - 5, ..... So, missing term,  $x_2 = 7 - 7 = 0$ .

28. Answer: Option C

Explanation:

As  $24:60 = (2/5)$

Similarly,  $(120/300) = (2/5)$

29. Answer: Option A

Explanation:

As  $335 - 216 = 119$

Similarly,  $987 - X = 119$

Therefore,  $X = 987 - 119 = 868$ .

30. Answer: Option E

Explanation:

This simple addition series adds 4 to each number to arrive at the next.

31. Answer: Option B

Explanation:

This is an alternating addition and subtraction series, in which the addition of 4 is alternated with the subtraction of 3.

32. Answer: Option A

Explanation:

A peace-loving nation like India can well join an international forum which seeks to bring different nations on friendly terms with each other. So, argument I holds strong. Argument II highlights a different aspect. The internal problems of a nation should not debar it from strengthening international ties. So, argument II is vague.

33. Answer: Option E

Explanation:

In the absence of such a ceiling, the companies would be involved in a mutual competition of salaries, in a bid to attract the most competent professionals. So, argument I holds. Also, the prospects of increase in salary would encourage the officials to perform better in the interest of the company they serve, which would otherwise not be so if a ceiling is imposed. So, argument II also holds strong.

34. Answer: Option D

Explanation:

In each row, the second figure forms the innermost and the outermost elements of the third figure and the first figure forms the middle element of the third figure.

35. Answer: Option B

Explanation:

In each row, the second figure is obtained by shading one of the four parts of the first figure and the third figure is obtained by shading two out of the four parts of the first figure.

36. Answer: Option E

Explanation:

All except Condensation are methods employed for separation of mixtures.

37. Answer: Option C

Explanation:

All others are hills located in India.

38. Answer: Option A

Explanation:

The man in the photograph is the son of the only son of Lata's grandfather i.e., the man is the son of Lata's father. Hence, the man is the brother of Lata.

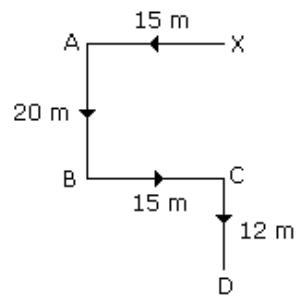
39. Answer: Option B

Explanation:

Since E is the brother of B  
Therefore, A is the father of E  
but D is the wife of E.  
Hence, D is the daughter-in-law of A.

40. Answer: Option A

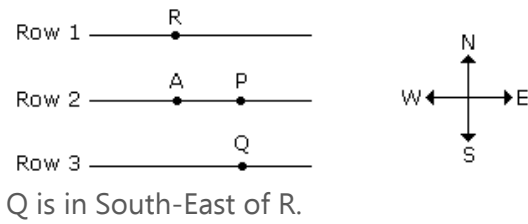
Explanation:



$$\begin{aligned} \text{Required distance} &= 20 + 12 \\ &= 32 \text{ m in south direction} \end{aligned}$$

41. Answer: Option D

Explanation:



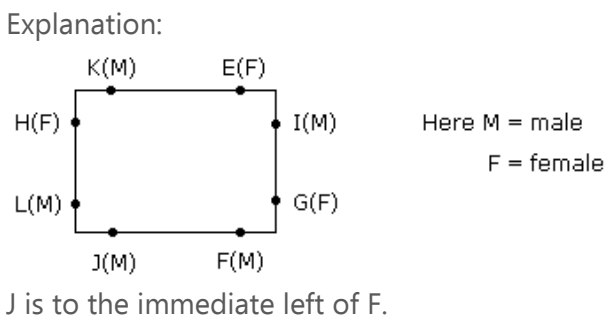
42. Answer: Option E

Explanation:  
The cost of living is directly associated with the prices of essential commodities. So, I is implicit. II denotes an essential consequence of rise in cost of living. So, II is also implicit.

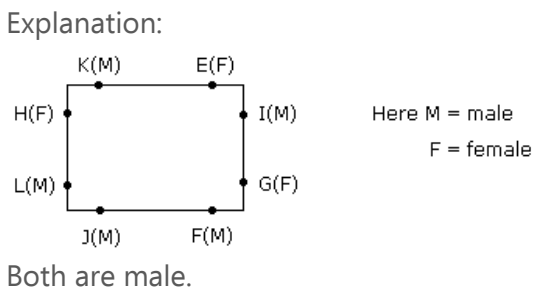
43. Answer: Option E

Explanation:  
The phrase 'budgetary provision for the purpose of appointing additional faculty' makes I implicit. Also, since no budgetary provision was provided for appointment of faculty in view of certain changed financial priorities, it means that some other issues require more financial attention. So, II is also implicit.

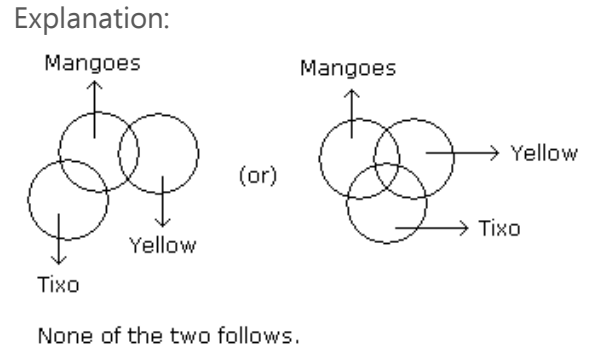
44. Answer: Option C



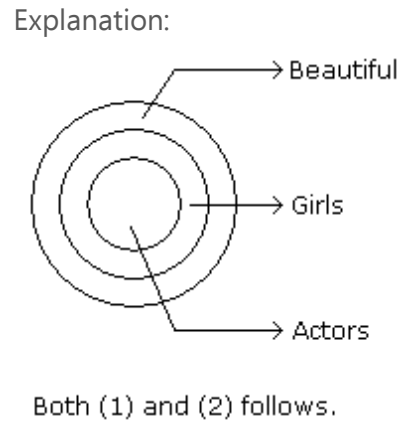
45. Answer: Option D



46. Answer: Option D



47. Answer: Option E



48. Answer: Option A

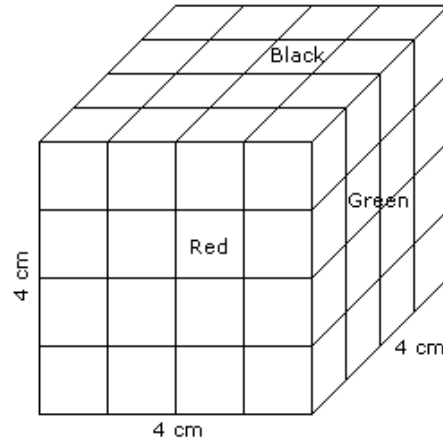
Explanation:  
Look at each segment. You will notice that in each, the figure on the right and the figure on the left are the same; the figure in between is different. To continue this pattern in the last segment, the diamond on the left will be repeated on the right. Choice a is the only possible answer.

49. 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.

One side of the big cube =  $\sqrt[3]{64} = 4 \text{ cm}$ .



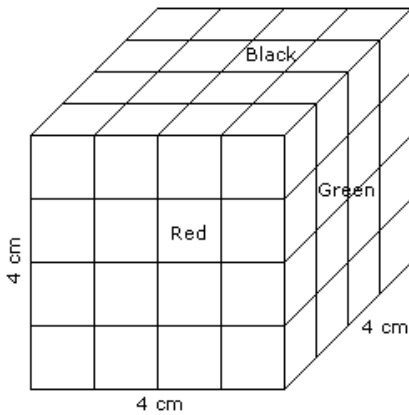
Number of small cubes having three faces coloured = 1 at each corner

= 1 x 8  
= 8  
>

- 50. Answer: Option B
- 51. Answer: Option B
- 52. Answer: Option D
- 53. Answer: Option B
- 54. Answer: Option C
- 55. Answer: Option C
- 56. Answer: Option C

Explanation:

One side of the big cube =  $\sqrt[3]{64} = 4 \text{ cm}$ .



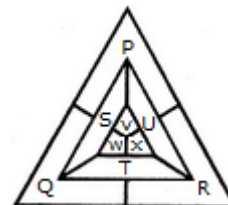
Number of small cubes having no face coloured =  $(x - 2)^3$   
=  $(4 - 2)^3$   
= 8

- 57. Answer: Option B
- Explanation:

- 58. Answer: Option D
- 59. Answer: Option C
- 60. Answer: Option D
- 61. Answer: Option A
- 62. Answer: Option D

Explanation:

The figure may be labelled as shown.



The spaces P, Q and R have to be shaded by three different colours definitely (since each of these three spaces lies adjacent to the other two).

Now, in order that no two adjacent spaces be shaded by the same colour, the spaces T, U

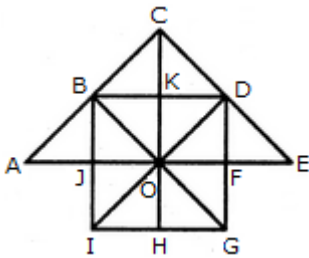
and S must be shaded with the colours of the spaces P, Q and R respectively.

Also the spaces X, V and W must be shaded with the colours of the spaces S, T and U respectively i.e. with the colours of the spaces R, P and Q respectively. Thus, minimum three colours are required.

63. Answer: Option D

Explanation:

The figure may be labelled as shown.



Triangles:

The simplest triangles are JBO, BKO, KDO, DFO, FGO, GHO, HIO, IJO, ABJ, BCK, CKD and DEF i.e.12 in number.

The triangles composed of two components each are IBO, BDO, DGO, GIO, ABO, CDO, CBO, CBD and DEO i.e. 9 in number.

The triangles composed of four components each are IBD, BDG, DGI, GIB, ACO and COE i.e. 6 in number.

There is only one. triangle i.e. ACE composed of eight components.

Thus, there are  $12 + 9 + 6 + 1 = 28$  triangles in the given figure.

Squares:

The squares composed of two components each are BKOJ, KDFO, OFGH and JOHI i.e. 4 in number.

There is only one square i.e. CDOB composed of four components.

There is only one square i.e. BDGI composed of eight components.

Thus, there are  $4 + 1 + 1 = 6$  squares in the given figure.

64. Answer: Option B

Explanation:

Suppose the boy got x sums right and 2x sums wrong.

Then,  $x + 2x = 48$   $3x = 48$   $x = 16$ .

65. Answer: Option D

Explanation:

**Clearly, seven strikes of a clock have 6 intervals while 10 strikes have 9 intervals.**

$\therefore$  Required time =  $\left(\frac{7}{6} \times 9\right)$  seconds =  $10\frac{1}{2}$  seconds.

66. Answer: Option A

67. Answer: Option B

68. Answer: Option D

69. Answer: Option C

70. Answer: Option C

71. Answer: Option C

72. Answer: Option A

Explanation:

If a man diligently seeks to come into contact

73. Answer: Option B

Explanation:

Remind me

74. Answer: Option D

75. Answer: Option B

76. Answer: Option E

77. Answer: Option B

78. Answer: Option A



79. Answer: Option D
80. Answer: Option C
81. Answer: Option A
82. Answer: Option C
83. Answer: Option D  
Explanation:  
Kleptomania: A recurrent urge to steal, typically without regard for need or profit.
84. Answer: Option D
85. Answer: Option A
86. Answer: Option D
87. Answer: Option A
88. Answer: Option D
89. Answer: Option B
90. Answer: Option B
91. Answer: Option C
92. Answer: Option A
93. Answer: Option A
94. Answer: Option D
95. Answer: Option A
96. Answer: Option C
97. Answer: Option C
98. Answer: Option B
99. Answer: Option C
100. Answer: Option B
101. Answer: Option C
102. Answer: Option B
103. Answer: Option C
104. Answer: Option C
105. Answer: Option A
106. Answer: Option B  
Explanation:  
Pyorrhoea, or periodontal disease, to give it a proper medical term, is a disease of the gums, it is one of the most widely prevalent diseases. It affects the membrane surrounding the roots of the teeth and leads to loosening of the teeth, pus formation, and shrinkage of the gum. This disease is the primary cause for tooth loss among adults.
107. Answer: Option D
108. Answer: Option A
109. Answer: Option C
110. Answer: Option A
111. Answer: Option C
112. Answer: Option A
113. Answer: Option C

114. Answer: Option A

115. Answer: Option B

116. Answer: Option C

117. Answer: Option A

118. Answer: Option B

Explanation:

After the Stock Market crash, a buying and selling game created by Charles Darrow came to be. The first games were hand drawn on linoleum with streets from Atlantic City, N.J. as the property. He took the game to the Parker Brothers Company, and Monopoly was brought out for Christmas 1934. Everyone wanted to buy the games after Christmas, and Monopoly became a big success.

119. Answer: Option C

120. Answer: Option A

Explanation:

One mole of CO<sub>2</sub> has mass of 44 g and 32 g of O<sub>2</sub>. So 16 g of O<sub>2</sub> have 22 g of CO<sub>2</sub> or 0.5 moles of it.

121. Answer: Option B

122. Answer: Option D

123. Answer: Option A

124. Answer: Option A

125. Answer: Option B

126. Answer: Option A

127. Answer: Option B

128. Answer: Option C

129. Answer: Option B

130. Answer: Option A

131. Answer: Option C

132. Answer: Option D

133. Answer: Option B

134. Answer: Option C

135. Answer: Option A

136. Answer: Option A

137. Answer: Option D

138. Answer: Option C

139. Answer: Option B

140. Answer: Option D

141. Answer: Option A

142. Answer: Option D

143. Answer: Option B

144. Answer: Option B

145. Answer: Option B

146. Answer: Option C

147. Answer: Option C

148. Answer: Option A

149. Answer: Option B

150. Answer: Option C