



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 A

Explanation:

Let 1 man's 1 day's work = x and 1 boy's 1 day' = y .

Then, $6x + 8y = \frac{1}{10}$ and $26x + 48y = \frac{1}{2}$.

Solving these two equations, we get :

$$x = \frac{1}{100} \text{ and } y = \frac{1}{200}.$$

(15 men + 20 boy)'s 1 day's work

$$= \left(\frac{15}{100} + \frac{20}{200}\right) = \frac{1}{4}.$$

∴ 15 men and 20 boys can do the work in 4 days.

2. Answer: Option C

Explanation:

Let speed of the car be x kmph.

Then, speed of the train = $\frac{150}{100}x = \left(\frac{3}{2}x\right)$

kmph.

$$\therefore \frac{75}{x} - \frac{75}{(3/2)x} = \frac{125}{10 \times 60}$$

$$\Rightarrow \frac{75}{x} - \frac{50}{x} = \frac{5}{24}$$

$$\Rightarrow x = \left(\frac{25 \times 24}{5}\right) = 120 \text{ kmph.}$$

3. Answer: Option C

Explanation:

Suppose, first pipe alone takes x hours to fill the tank.

Then, second and third pipes will take $(x - 5)$ and $(x - 9)$ hours respectively to fill the tank.

$$\therefore \frac{1}{x} + \frac{1}{(x-5)} = \frac{1}{(x-9)}$$

$$\Rightarrow \frac{X - 5 + X}{X(X - 5)} = \frac{1}{(X - 9)}$$

$$\Rightarrow (2X - 5)(X - 9) = X(X - 5)$$

$$\Rightarrow X^2 - 18X + 45 = 0$$

$$(x - 15)(x - 3) = 0$$

$$\Rightarrow x = 15. \text{ [neglecting } x = 3]$$

4. Answer: Option A

Explanation:

$$A: B = \left[4x \times 3 + \left(4x - \frac{1}{4} \times 4x\right) \times 7\right] :$$

$$\left[5x \times 3 + \left(5x - \frac{1}{5} \times 5x\right) \times 7\right]$$

$$= (12x + 21x) : (15x + 28x)$$

$$= 33x : 43x$$

$$= 33 : 43.$$

$$\therefore A's \text{ share} = \text{Rs. } \left(760 \times \frac{33}{76}\right) = \text{Rs. } 330.$$

5. Answer: Option B

Explanation:

Let the price of a saree and a shirt be Rs. x and Rs. y respectively.

$$\text{Then } 2x + 4y = 1600 \dots\dots\dots (i),$$

$$\text{and } x + 6y = 1600 \dots\dots\dots (ii)$$

Divide equation (i) by 2, we get the below equation.

$$x + 2y = 800. \dots\dots (iii)$$

Now subtract (iii) from (ii)

$$x + 6y = 1600$$

$$x + 2y = 800$$

$$4y = 800$$

Therefore, $y = 200$.

Now apply value of y in (iii)

$$x + 2 \times 200 = 800$$

$$x + 400 = 800$$

Therefore $x = 400$

Solving (i) and (ii) we get $x = 400$,

$$y = 200.$$

$$\therefore \text{Cost of 12 shirts} = \text{Rs. } (12 \times 200) = \text{Rs. } 2400.$$

6. Answer: Option A

Explanation:

55 min. spaces are covered in 60 min.

60 min. spaces are covered in $\left(\frac{60}{55} \times$

$$60\right) \text{min.} = 65\frac{5}{11} \text{ min.}$$

$$\text{Loss in 64 min.} = \left(65\frac{5}{11} - 64\right) = \frac{16}{11} \text{ min.}$$

$$\text{Loss in 24 hrs} = \left(\frac{16}{11} \times \frac{1}{64} \times 24 \times 60\right)$$

$$\text{min.} = 32\frac{8}{11} \text{ min.}$$

7. Answer: Option B

Explanation:

Let their investments be Rs. x for 14 months, Rs. y for 8 months and Rs. z for 7 months respectively.

Then; $14x : 8y : 7z = 5 : 7 : 8$.

$$\text{Now, } \frac{14x}{8y} = \frac{5}{7} \Leftrightarrow 98x = 40y \Leftrightarrow y = \frac{49}{20}x$$

$$\text{And, } \frac{14x}{7z} = \frac{5}{8} \Leftrightarrow 112x = 35z \Leftrightarrow z =$$

$$\frac{112}{35}x = \frac{16}{5}x$$

$$\therefore x : y : z = \frac{49}{20}x : \frac{16}{5}x = 20 : 49 : 64.$$

8. Answer: Option B

Explanation:

$$\text{Time} = \left(\frac{100 \times 81}{450 \times 4.5}\right) \text{years} = 4 \text{ years.}$$

9. Answer: Option C

Explanation:

Relative Speed = $(60 + 90)$ km/hr

$$= \left(150 \times \frac{5}{18}\right) \text{m/sec}$$

$$= \left(\frac{125}{3}\right) \text{m/sec.}$$

Distance covered = $(1.10 + 0.9)$ km = 2 km = 2000 m.

$$\text{Required time} = \left(2000 \times \frac{3}{125}\right) \text{sec} = 48 \text{ sec.}$$

10. Answer: Option D

Explanation:

Here, $S = \{1, 2, 3, 4, \dots, 19, 20\}$.

Let $E =$ event of getting a multiple of 3 or 5 = $\{3, 6, 9, 12, 15, 18, 5, 10, 20\}$.

$$\therefore P(E) = \frac{n(E)}{n(S)} = \frac{9}{20}$$

11. Answer: Option D

Explanation:

91 is divisible by 7. So, it is not a prime number.

12. Answer: Option D

Explanation:

In the word 'CORPORATION', we treat the vowels OOAIO as one letter.

Thus, we have CRPRTN (OOAIO).

This has 7 $(6 + 1)$ letters of which R occurs 2 times and the rest are different.

Number of ways arranging these letters

$$= \frac{7!}{2!} = 2520.$$

Now, 5 vowels in which O occurs 3 times and the rest are different, can be arranged in

$$\frac{5!}{3!} = 20 \text{ days.}$$

Required number of ways = $(2520 \times 20) = 50400$.

13. Answer: Option C

Explanation:

$$\frac{29.94}{1.45} = \frac{299.4}{14.5}$$

$$= \left(\frac{2994}{14.5} \times \frac{1}{10}\right) \text{ [Here, Substitute 172 in the place of } 2994/14.5 \text{]}$$

$$= \frac{172}{10}$$

$$= 17.2$$

14. Answer: Option C

Explanation:

Angle traced by hour hand in 12 hrs = 360° .

Angle traced by hour hand in 5 hrs 10

min. i.e. $\frac{31}{6} \text{ hrs} = \left(\frac{360}{6} \times \frac{31}{6}\right)^\circ = 155^\circ$.

15. Answer: Option A

Explanation:

$$19657 \quad \text{Let } x - 53651 = 9999$$

$$33994 \quad \text{Then, } x = 9999 + 53651 = 63650$$

53651

16. Answer: Option C

Explanation:

Whole work is done by A in $(20 \times \frac{5}{4}) = 25$ days.

Now, $(1 - \frac{5}{4})$ i.e., $\frac{1}{5}$ work is done by A and B in 3 days.

Whole work will be done by A and B in $(3 \times 5) = 15$ days.

A's 1 day's work = $\frac{1}{25}$,

(A + B)'s 1 day's work = $\frac{1}{15}$.

$$\therefore \text{B's 1 day's work} = \left(\frac{1}{15} - \frac{1}{25}\right) = \frac{4}{150} = \frac{2}{75}$$

So, B alone would do the work in $\frac{75}{2} = 37\frac{1}{2}$ days.

17. Answer: Option A

Explanation:

Relative speed = $(120 + 80)$ km/hr

$$= \left(200 \times \frac{5}{18}\right) \text{ m/sec}$$

$$= \frac{500}{9} \text{ m/sec.}$$

Let the length of the other be x metres.

$$\text{Then, } \frac{x+270}{9} = \frac{500}{9}$$

$$\Rightarrow x + 270 = 500$$

$$\Rightarrow x = 230.$$

18. Answer: Option B

Explanation:

$$\text{Time} = \left(\frac{100 \times 81}{450 \times 4.5}\right) \text{ years} = 4 \text{ years.}$$

19. Answer: Option D

Explanation:

Let $2^{32} = x$. Then $(2^{32} + 1) = (x + 1)$

Let $(x + 1)$ be completely divisible by the natural number N . Then,

$(2^{96} + 1) = [(2^{32})^3 + 1] = (x^3 + 1) = (x + 1)(x^2 - x + 1)$, which is completely divisible by N , since $(x + 1)$ is divisible by N .

20. Answer: Option C

Explanation:

$$\text{Let } \frac{.009}{x} = .01; \text{ Then } x = \frac{.009}{.01} = \frac{.9}{1} = .9$$

21. Answer: Option B

Explanation:

Area of the park = $(60 \times 40) \text{ m}^2 = 2400 \text{ m}^2$.

Area of the lawn = 2109 m^2 .

$$\therefore \text{Area of the crossroads} = (2400 - 2109) \text{ m}^2 = 291 \text{ m}^2.$$

Let the width of the road be x metres. Then,

$$60x + 40x - x^2 = 291$$

$$\Rightarrow x^2 - 100x + 291 = 0$$

$$\Rightarrow (x - 97)(x - 3) = 0$$

$$\Rightarrow x = 3.$$

22. Answer: Option D

Explanation:

Quantity of milk = $(60 \times \frac{2}{3})$ litres = 40 litres.

Quantity of water in it = $(60 - 40)$ litres = 20 litres.

New ratio = 1: 2

Let quantity of water to be added further be x litres.

$$\text{Then, milk: water} = \left(\frac{40}{20+x}\right).$$

$$\text{Now, } \left(\frac{40}{20+x}\right) = \frac{1}{2}$$

$$\Rightarrow 20 + x = 80$$

$$\Rightarrow x = 60.$$

\therefore Quantity of water to be added = 60 litres.

23. Answer: Option D

Explanation:

Let original length = x and original breadth = y .

$$\text{Decrease in area} = xy - \left(\frac{80}{100}x \times \frac{90}{100}y\right)$$

$$= \left(xy - \frac{18}{25}xy \right)$$

$$= \frac{7}{25}xy.$$

$$\therefore \text{Decreases \%} = \left(\frac{7}{25}xy \times \frac{1}{xy} \times 100 \right) \% = 28\%.$$

24. Answer: Option D

Explanation:

$$A's\ 1\ day's\ work = \frac{1}{15}$$

$$B's\ 1\ day's\ work = \frac{1}{20}$$

$$(A + B)'s\ 1\ day's\ work = \left(\frac{1}{15} + \frac{1}{20} \right) = \frac{7}{60}$$

$$(A + B)'s\ 4\ day's\ work = \left(\frac{7}{60} \times 4 \right) = \frac{7}{15}$$

Therefore, Remaining work

$$= \left(1 - \frac{7}{15} \right) = \frac{8}{15}$$

25. Answer: Option A

Explanation:

Let the numbers be $3x$, $4x$ and $5x$.

Then, their L.C.M. = $60x$.

$$\text{So, } 60x = 2400 \text{ or } x = 40.$$

The numbers are (3×40) , (4×40) and (5×40) .

Hence, required H.C.F = 40.

26. Answer: Option D

Explanation:

All except Mathura are cities situated on the banks of Ganga river.

27. Answer: Option C

Explanation:

In all except Trifle, 'tri' indicates 'three'.

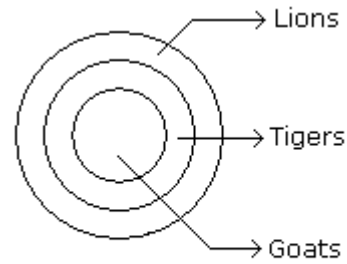
28. Answer: Option A

Explanation:

All others are parts of a calendar.

29. Answer: Option C

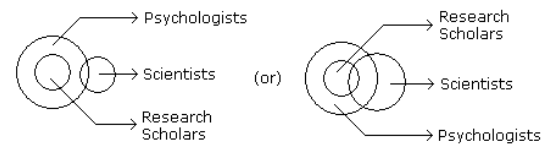
Explanation:



Only (1), (3) and (4) follows.

30. Answer: Option A

Explanation:



Only (3) and (4) follows.

31. Answer: Option B

Explanation:

Sachin's mother has instructed him as a matter of caution and out of care for her child, and not because Sachin himself would not be able to decide. So, I is not implicit. Besides, Sachin's mother instructs him to take to train journey in case it rains heavily. So, II is implicit.

32. Answer: Option B

Explanation:

The advice tells to 'make up for the delay' showing that delay is not to be done. So, I is not implicit. Since increase in number of people will make up for the delay, it means the output will increase with this increase in number. So, II is implicit.

33. Answer: Option E

Explanation:

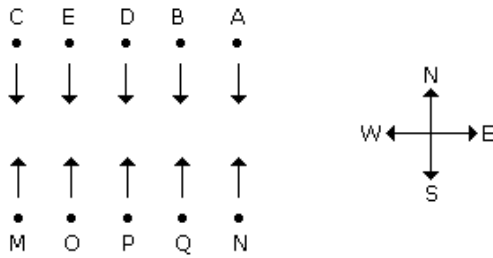
The statement clearly indicates that at present the water level of the lakes is adequate. There is nothing of a shortage to induce a cut in water supply and still there is

time to wait and watch the performance of rains during the remaining monsoon period. So, both I and II are implicit.

34. Answer: Option B

Explanation:

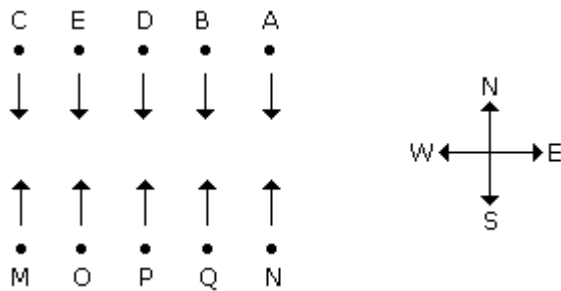
Initial arrangement:



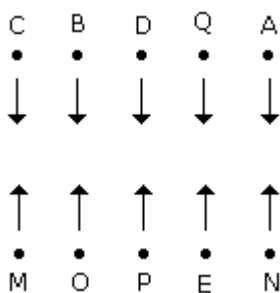
35. Answer: Option A

Explanation:

Initial arrangement:



New arrangement after shifting :



B is opposite to O and second person left to B is Q.

36. 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.

37. Answer: Option C

Explanation:

In each row, the third figure is a collection of the common elements (line segments) of the first and the second figures.

38. Answer: Option D

39. Answer: Option B

40. Answer: Option D

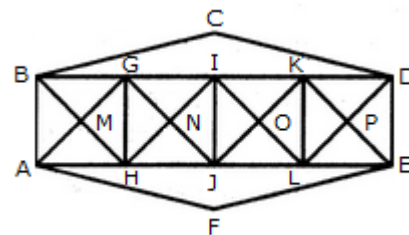
41. Answer: Option B

42. Answer: Option C

43. Answer: Option C

Explanation:

The figure may be labelled as shown.



Triangles:

The simplest triangles are BGM, GHM, HAM, ABM, GIN, UN, JHN, HGN, IKO, KLO, LJO, JIO, KDP, DEP, ELP, LKP, BCD and AFE i.e. 18 in number.

The triangles composed of two components each are ABG, BGH, GHA, HAB, HGI, GIJ, IJH, JHG, JIK, IKL, KLJ, LJL, LKD, KDE, DEL and ELK i.e. 16 in number.

The triangles composed of four components each are BHI, GJK, ILD, AGJ, HIL and JKE i.e. 6 in number.

Total number of triangles in the figure = 18 + 16 + 6 = 40.

Squares :

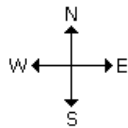
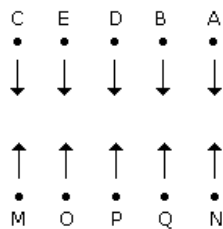
The squares composed of two components each are MGNH, NIOJ and OKPL i.e. 3 in number.

The squares composed of four components each are BGHA, GIJH, IKLJ and KDEL i.e. 4 in number.

Total number of squares in the figure = 3 + 4 = 7.

44. Answer: Option D

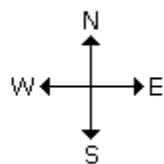
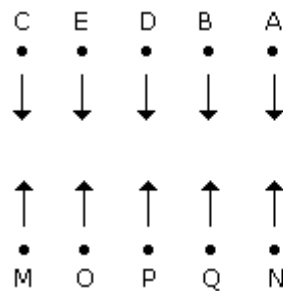
Explanation:



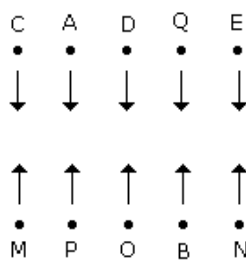
45. Answer: Option B

Explanation:

Old arrangement :



New arrangement :



46. Answer: Option E

47. Answer: Option B

Explanation:

Clearly, spending money on sports cannot be avoided merely because it can be spent on socio-economic problems. So, argument I does not hold. Also, if the expenses on sports are curtailed, the sports persons would face lack of facilities and training and our country will lag behind in the international sports competitions. So, II holds.

48. Answer: Option D

Explanation:

The free passes given to railway employees is a privilege for them, not their right. So, argument I does not hold. Argument II seems to be vague.

49. Answer: Option D

Explanation:

$M \times N \rightarrow M$ is the father of N

$N - C \rightarrow N$ is the sister of C

and $C + F \rightarrow C$ is the brother of F.

Hence, M is the father of C or C is the son of M.

50. Answer: Option B

Explanation:

Father's wife \rightarrow mother. Hence, the daughter of the mother means sister and sister's younger brother means brother. Therefore, the boy is the brother of Deepak.

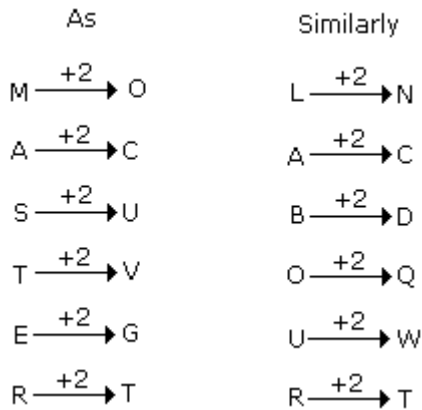
51. Answer: Option D

Explanation:

As Chairman is the highest authority in a conference similarly Editor is in Newspaper.

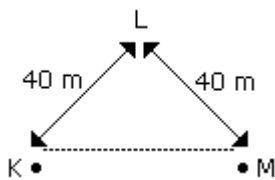
52. Answer: Option A

Explanation:



53. Answer: Option A

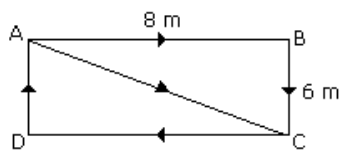
Explanation:



Hence M is in the East of K.

54. Answer: Option C

Explanation:



$$\begin{aligned}
 \text{Required distance} &= 8 + 6 + 8 + 6 + \sqrt{8^2 + 6^2} \\
 &= 28 + \sqrt{100} \\
 &= 28 + 10 \\
 &= 38 \text{ m}
 \end{aligned}$$

55. Answer: Option C

56. Answer: Option A

57. Answer: Option D

58. Answer: Option C

59. Answer: Option D

60. Answer: Option D

61. Answer: Option B

Explanation:

The fig. (X) is similar to the Form V. So, when the sheet in fig. (X) is folded to form a cube, then the face bearing a dot lies opposite to one of the shaded faces. Therefore, the cube shown in fig. (2) which has both the shaded faces adjacent to the face bearing the dot, cannot be formed. Hence, the cubes shown in figures (1), (2) and (4) can be formed.

62. Answer: Option A

Explanation:

The pattern on fig. (X) and also the fact that the faces are rectangle, indicate that only fig. (1) can be obtained by folding fig. (X).

63. Answer: Option A

Explanation:

Clearly, the required number would be such that it leaves a remainder of 1 when divided by 2, 3 or 4 and no remainder when divided by 5. Such a number is 25.

64. Answer: Option B

Explanation:

Let the number of cows be x and the number of hens be y.
 Then, $4x + 2y = 2(x + y) + 14$
 $4x + 2y = 2x + 2y + 14$
 $2x = 14$
 $x = 7$.

65. Answer: Option A

Explanation:

In each step, the dot moves one space CW and the arrow moves two spaces CW.

66. Answer: Option B

67. Answer: Option B

68. Answer: Option C
69. Answer: Option A
70. Answer: Option D
71. Answer: Option B
72. Answer: Option D
73. Answer: Option C
74. Answer: Option A
75. Answer: Option C
76. Answer: Option B
77. Answer: Option B
78. Answer: Option C
79. Answer: Option B
80. Answer: Option C
81. Answer: Option D
82. Answer: Option A
83. Answer: Option C
84. Answer: Option B
85. Answer: Option A
86. Answer: Option C
Explanation:
Main Entry: belittle
Part of Speech: verb
Definition: detract
- Synonyms: bad-mouth, blister, criticize, cut down to size, cut to the quick, decry, deprecate, depreciate, deride, derogate, diminish, discount, discredit, disparage, dispraise, downgrade, downplay, dump on, knock*, lower, minimize, pan, pooh pooh, poor mouth, put down, rip*, roast, run down, scoff at, scorch*, scorn, shoot down, shoot full of holes, slam*, smear, sneer at, sour grapes, squash, squelch, take a swipe at, take down, take down a peg, tear down, underestimate, underrate, undervalue, write off.
Antonyms: build up, exaggerate, praise, value
87. Answer: Option A
88. Answer: Option B
89. Answer: Option D
90. Answer: Option A
91. Answer: Option C
92. Answer: Option C
93. Answer: Option C
94. Answer: Option B
95. Answer: Option B
96. Answer: Option C
97. Answer: Option C
98. Answer: Option E
99. Answer: Option C
100. Answer: Option C

101. Answer: Option B
102. Answer: Option D
103. Answer: Option D
104. Answer: Option B
Explanation:
It is the meek and the humble
105. Answer: Option D
106. Answer: Option A
Explanation:
Gulf cooperation council was created on May 25, 1981, the 630-million-acre (2,500,000 km²) Council comprises the Persian Gulf states of Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates.

The unified economic agreement between the countries of the Gulf Cooperation Council was signed on November 11, 1981 in Abu Dhabi. These countries are often referred to as The GCC States.
107. Answer: Option C
108. Answer: Option B
109. Answer: Option C
110. Answer: Option C
111. Answer: Option B
112. Answer: Option A
113. Answer: Option C
114. Answer: Option B
115. Answer: Option A
116. Answer: Option A
117. Answer: Option C
118. Answer: Option A
Explanation:
A collection of atoms or molecules that can be excited to a higher energy state is called an active medium. Before lasing can occur, the active media is "pumped". The process of raising the atoms in the active media from a lower energy state to a higher state is like pumping water up from a well.
119. Answer: Option A
120. Answer: Option D
121. Answer: Option C
122. Answer: Option D
123. Answer: Option B
124. Answer: Option B
125. Answer: Option D
126. Answer: Option D
Explanation:
He was christened 'Helium Bat' very early in his career by team mates, due to his habit of lifting his bat over his shoulder and letting anything bowled outside the off-stump go by.
127. Answer: Option B

128. Answer: Option A
129. Answer: Option A
130. Answer: Option A
131. Answer: Option C
132. Answer: Option A
133. Answer: Option B
134. Answer: Option A
135. Answer: Option A
136. Answer: Option D
137. Answer: Option A
138. Answer: Option C
139. Answer: Option A
140. Answer: Option B
141. Answer: Option D
142. Answer: Option C
143. Answer: Option B
144. Answer: Option B
145. Answer: Option C
146. Answer: Option B
147. Answer: Option A
148. Answer: Option C
149. Answer: Option B
150. Answer: Option A