Most world record achievers in Mathematics

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Directions (1-5): In each of the question, relationships between some elements are shown in the statements(s). These statements are followed by conclusions numbered I and II. Read the statements and give the answer.
(a) If only conclusion I follows.
(b) If only conclusion II follows.
(c) If either conclusion I or II follows.
(d) If neither conclusion I nor II follows.
(e) If both conclusions I and II follow.

1. Statements: $A < B > N = M, B \le V, M > R$
Conclusions: I. $B > R$ **II.** $V > A$
(a) If only conclusion I follows.
(b) If only conclusion II follows.
(c) If either conclusion I or II follows.
(d) If neither conclusion I nor II follows.
(e) If both conclusions I and II follow.

2. Statements: $D < E > F = G > H = I \le J$
Conclusions: I. $F > I$ **II.** $J \ge E$
(a) If only conclusion I follows.
(b) If only conclusion II follows.
(c) If either conclusion I or II follows.
(d) If neither conclusion I nor II follows.
(e) If both conclusions I and II follow.

3. Statements: $M < N < O > P, N < E$
Conclusions: I. $E < M$ **II.** $E > O$
(a) If only conclusion I follows.
(b) If only conclusion II follows.
(c) If either conclusion I or II follows.
(d) If neither conclusion I nor II follows.
(e) If both conclusions I and II follow.

4. Statements: $C \ge D < E = F \ge G, C < W$
Conclusions: I. $E = G$ **II.** $G < E$
(a) If only conclusion I follows.
(b) If only conclusion II follows.
(c) If either conclusion I or II follows.

(d) If neither conclusion I nor II follows.
(e) If both conclusions I and II follow.

5. Statements: $R < T < S < P > Q, R > X$
Conclusions: I. $S < Q$ **II.** $X < S$
(a) If only conclusion I follows.
(b) If only conclusion II follows.
(c) If either conclusion I or II follows.
(d) If neither conclusion I nor II follows.
(e) If both conclusions I and II follow.

Direction (6-10): Study the following information carefully and answer the question given belowEight people viz. G, H, I, J, K, L, M and N lives in a Building on different floors from top to bottom (such as ground floor numbered as 1 and top is numbered as 8) but not necessarily in the same order.
There is a gap of three floors between J and L and both of them lives on odd number of floor. N lives just above H, who lives on even numbered floor. I lives on floor number 6.Only one person lives between L and M. J lives above I. Three persons live between K and H.

6. Who among the following lives on ground floor?
(a) N
(b) J
(c) K
(d) M
(e) None of these

7. Who among the following lives immediately below L?
(a) K
(b) I
(c) G
(d) H
(e) None of these

8. How many persons lives between I and H?

(a) One
(b) Three
(c) Fives
(d) Two
(e) None of these

9. Who among the following lives on Top floor?

(a) N
(b) J
(c) K
(d) M
(e) None of these

10. Which of the following combination is false?

(a) J-7
(b) L-3
(c) G-2
(d) H-4
(e) N-1

11. In a row of children facing North, Rajan is twelfth from the right end and is fifth to the right of Satyarthi who is tenth from the left end. How many total number of children are there in the row?

(a) 29
(b) 28
(c) 26
(d) 27
(e) None of these

12. Raj leaves his home and goes straight 20 meters, then turns right and goes 10 meters. He turns left and goes 30 meters and finally turns right and starts walking. If he is now moving in the north direction, then in which direction did he start his walking?

(a) East
(b) West
(c) North
(d) South
(e) None of these

Directions (13-17): In each of the questions given below, a group of digits/letter is given followed by four combinations of symbols numbered (a), (b), (c) and (d). You have to find out which of the four combinations correctly represents the group of digits/letters based on the symbol codes and the conditions given below. If none of the four combinations represents the group of digits correctly, give (e) ie 'None of these' as the answer.

Digit	Z	L	F	1	I	5	7	A	E	B	2	X	6	W
Symbol	@	!	$	^	µ	Δ	Å	&	>	≠	<	®	£	∞

Condition for coding the group elements:
(i) If the first letter is Vowel and the last digit is divisible by 2, then both are to be coded as +.
(ii) If the first as well as the last digit is odd, then both are to be coded by the code of the first digit.
(iii)If the first letter is consonant and the last digit is od number, then the code of first and last elements are to be interchanged.

13. WX6ZF1

(a) ^®$@£∞
(b) ^@$∞<!
(c) ^®£@$∞
(d) ∞®@>!<
(e) None of these

14. FE1XI6

(a) ∞^@<!£
(b) $<^^£@
(c) $>^®µ£
(d) $<^@^£

(e) None of these

(e) None of these

15. 5L2IA1
(a) Δ!<µ&Δ
(b) Δ!&^<µ
(c) Δ!<µ^&
(d) µ&Δ!<^
(e) None of these

16. E2ZA6
(a) &>!^@
(b) @<@&!
(c) @&<@&
(d) +<@&+
(e) None of these

17. IZ2W2
(a) @≠^$&
(b) +@<∞+
(c) <∞µ@≠
(d) @≠>!^
(e) None of these

Directions (18-22): Read the following information carefully and answer the questions given below. A, B, C, D, E, F, G and H are eight members standing in a row (not necessarily in the same order) facing north. C and B have as many members between them as G and C have between them. D, who is 4th from the extreme left end, is 2nd to the left of E. G is 3rd place away from one of the extreme end. Neither B nor C sits any extreme end. F sits immediate right of A.

18. How many persons sit between G and B?
(a) One
(b) Three
(c) Two
(d) Four

19. Who among the following persons sits at extreme ends?
(a) A, G
(b) B, C
(c) F, H
(d) H, A
(e) None of these

20. Who sits second to the right of E?
(a) B
(b) H
(c) G
(d) C
(e) None of these

21. Who sits third to the left of G?
(a) A
(b) None
(c) F
(d) E
(e) B

22. Who sits immediate left of C?
(a) A
(b) H
(c) C
(d) D
(e) None of these

23. Find the odd one out?
(a) ACB
(b) DFE
(c) GIH
(d) JLK
(e) MNO

Directions (24-28): Study the following number sequence and answer the questions following it.

9 3 2 4 5 7 9 5 8 1 5 0 6 4 2 9 8 2 6 3 5 9 8 2 1 5 4 3 2 1

24. How many odd numbers are there in the numeric series which are immediately preceded by a number, which is a whole square?
(a) One
(b) Two
(c) Three
(d) More than three
(e) None of these

25. If all the odd numbers are dropped from the series, which number will be eighth to the left of eleventh number from the left end?
(a) 2
(b) 8
(c) 6
(d) 4
(e) None of these

26. If 1 is subtracted from all odd numbers and 2 is subtracted from all even numbers in the given number series, then which number will be sixteenth from the right end?
(a) 0
(b) 2
(c) 3
(d) 8
(e) 6

27. If the position of the 1st and the 16th numbers, the 2nd and the 17th numbers, and so on up to the 15th and the 30th numbers, are interchanged, which number will be 7th to the right of 19th number from the right end?
(a) 5
(b) 9
(c) 8
(d) 4

(e) None of these

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28. How many total even numbers which is immediately preceded by a 'whole cube' or 'immediately preceded by a whole square' in the above sequence?
(a) Four
(b) Five
(c) Three
(d) Six
(e) None of these

Directions (29–33): In each question below are given some statements followed by two conclusions numbered I and II. You have to take the given statements to be true even if they seem to be at variance with commonly known facts. Read all the conclusions and then decide which of the given conclusions logically follows/follow from the given statements, disregarding commonly known facts. Give answer
(a) If only conclusion I follows.
(b) If only conclusion II follows.
(c) If either conclusion I or II follows.
(d) If neither conclusion I nor II follows.
(e) If both conclusions I and II follow.

29. **Statements:** All shirts are skirts.
No skirt is top. All tops are kurta.
Conclusions: I. All shirts are kurta
II. Some kurta are skirts.
(a) If only conclusion I follows.
(b) If only conclusion II follows.
(c) If either conclusion I or II follows.
(d) If neither conclusion I nor II follows.
(e) If both conclusions I and II follow.

30. **Statements:** Some chocolate are chips.

Some chips are jelly.
All jelly are whoppers.
Conclusions: I. Some jelly are chips.
II. All chocolate being whoppers is a possibility
(a)If only conclusion I follows.
(b)If only conclusion II follows.
(c) If either conclusion I or II follows.
(d)If neither conclusion I nor II follows.
(e)If both conclusions I and II follow.

31. **Statements:** Some frooti are Maaza.
No Maaza is slice.
All slice are fanta.
Conclusions: I. Some frooti are definitely not slice.
II. Some fanta are definitely not Maaza.
(a)If only conclusion I follows.
(b)If only conclusion II follows.
(c) If either conclusion I or II follows.
(d)If neither conclusion I nor II follows.
(e)If both conclusions I and II follow.

32. **Statements:** All carbon are oxygen.
All Nitrogen are carbon.
Some oxygen are Sulphur.
Conclusions I. All Nitrogen being Sulphur is a possibility.
II. All Nitrogen are not oxygen.
(a)If only conclusion I follows.
(b)If only conclusion II follows.
(c) If either conclusion I or II follows.
(d)If neither conclusion I nor II follows.
(e)If both conclusions I and II follow.

33. **Statements:** All September are October.
No October is November.
No November is December.
Conclusions: I. Some September are not Novembers
II. No October is December.

(a)If only conclusion I follows.
(b)If only conclusion II follows.
(c) If either conclusion I or II follows.
(d)If neither conclusion I nor II follows.
(e)If both conclusions I and II follow.

Directions (34-38): Following questions are based on the five words given below, Study the following words and answer the following questions.
NOW SAD WAF RAT CAT
(The new words formed after performing the mentioned operations may not necessarily be a meaningful English word.)

34. If the given words are arranged in the order as they appear in a dictionary from left to right, which of the following will be the fourth from the left end?
(a) WAF
(b) NOW
(c) SAD
(d) CAT
(e) RAT

35. How many letters are there in the English alphabetical series between the second letter of the word which is second from the right end and the third letter of the word which is second from the left end?
(a) Two
(b) Three
(c) Four
(d) Five
(e) None of these

36. If the third alphabet in each of the words is changed to the previous alphabet in the English alphabetical order, how many words thus formed will be without any vowels?

(a) None
(b) One
(c) Two
(d) Three
(e) More than three

37. If the position of the first and the third alphabet of each of the words are interchanged, which of the following will form a meaningful word in the new arrangement?
(a) NOW
(b) SAD
(c) RAT
(d) WAF
(e) Both (a) and (c)

38. If in each of the given words, each of the consonants is changed to its previous letter and each vowel is changed to its next letter in the English alphabetical series, then how many words thus formed will at least one vowel appear?
(a) None
(b) One
(c) Two
(d) Three
(e) None of these

39. If in the number 9737132710, positions of the first and the second digits are interchanged, positions of the third and fourth digits are interchanged and so on till the positions of 9th and 10th digits are interchanged, then which digit will be 6th from the left end?
(a) 7
(b) 1
(c) 3
(d) 9
(e) None of these

40. How many pairs of letters are there in the word" WORSHIP" which have as many letters between them in the word as in alphabetical series?
(a) None
(b) One
(c) Two
(d) Three
(e) Four

41. The retail price of a water geyser is Rs. 1265. If the manufacturer gains 10%, the wholesale dealer gains 15% and the retailer gains 25%, then the cost of the product is:
(a) Rs. 800
(b) Rs. 900
(c) Rs. 700
(d) Rs. 600
(e) None of these

42. A pipe can fill a cistern in 6 hrs. Due to a leak in its bottom, it is filled in 7 hrs. When the cistern is full, in how much time will it be emptied by the leak?
(a) 42 hrs
(b) 40 hrs
(c) 43 hrs
(d) 45 hrs
(e) None of these

43. Ram travels a certain distance at 3 km/h and reaches 15 minutes late. If he travels at 4 km/h, he reaches 15 minutes earlier. The distance he has to travel is:
(a) 4.5 km
(b) 6 km
(c) 7.2 km
(d) 12 km
(e) None of these

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44. In a mixture of 45 litres, the ratio of milk and water is 3 : 2. How much water must be added to make the ratio 9 : 11?
(a) 10 litres
(b) 15 litres
(c) 17 litres
(d) 20 litres
(e) None of these

45. A person can row with the stream at 8 Km per hour and against the stream at 6 Km an hour. The speed of the current is:
(a) 1 Km/h
(b) 2 Km/h
(c) 4 Km/h
(d) 5 Km/h
(e) None of these

46. A father's age is three times the sum of the ages of his two children, but 20 years hence his age will be equal to the sum of their ages. Then, the father's age is:
(a) 30 years
(b) 40 years
(c) 35 years
(d) 45 years
(e) None of these

47. A sum was put at simple interest at a certain rate for 3 years. Had it been put at 1% higher rate, it would have fetched Rs. 5100 more. The sum is:
(a) Rs. 170000
(b) Rs. 150000
(c) Rs. 125000
(d) Rs. 120000
(e) None of these

48. From among 36 teachers in a school, one principal and one vice-principal are to be appointed. In how many ways can this be done?
(a) 1260
(b) 1250
(c) 1240
(d) 1800
(e) None of these

49. A card is drawn at random from a well-shuffled pack of 52 cards. What is the probability of getting a two of hearts or a two diamonds?
(a) $\dfrac{3}{26}$
(b) $\dfrac{2}{17}$
(c) $\dfrac{1}{26}$
(d) $\dfrac{4}{13}$
(e) None of these

50. A sum is invested for 3 years at compound interest at 5%, 10% and 20% respectively. In three years, if the sum amounts to Rs. 16,632, then find the sum.
(a) Rs. 11000
(b) Rs. 12000
(c) Rs. 13000
(d) Rs. 14000
(e) None of these

Directions (51-55): Table shows the mobile phones sold on different days by different sellers. Read the table carefully and answer the questions.

Days→ Mobiles Phones Sellers	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
P	40	45	48	28	50	24	20
Q	90	92	27	12	16	98	26
R	80	36	30	13	28	62	47
S	60	46	12	64	52	34	76
T	48	18	58	69	70	10	15

51. Find the difference of mobile phones sold by P and R together on Monday to the mobile phones sold by S and T on Wednesday ?

(a) 60

(b) 50

(c) 80

(d) 20

(e) None of these

52. Find the ratio of mobile phone sold by Q on Tuesday and Saturday together to the mobile phone sold by R on Thursday and Sunday together?

(a) 7 : 19

(b) 19 : 5

(c) 19 : 6

(d) 2 : 5

(e) None of these

53. Mobile phones sold by P and S together on Wednesday is what percent of mobile phone sold by T on Sunday ?

(a) 400%

(b) 200%

(c) 100%

(d) 50%

(e) None of these

54. What is the average of mobile phone sold by Q on Wednesday, T on Sunday and S on Monday ?

(a) 24

(b) 36

(c) 30

(d) 28

(e) None of these

55. The mobiles sold by P on Thursday are of two types i.e. Windows phone and Android phone in ratio 3 : 4. Find the number of Windows phones sold by P on Thursday?

(a) 14

(b) 24

(c) 16

(d) 12

(e) None of these

Directions (Q.56-65): What should come in place of question mark (?) in following simplification problems?

56. 45% of 600 + ?% of 480 = 390

(a) 20

(b) 25

(c) 30

(d) 40

(e) None of these

57. $4\dfrac{2}{3} + 7\dfrac{1}{6} - 5\dfrac{2}{9} = ?$

(a) $6\dfrac{2}{3}$

(b) $6\dfrac{2}{9}$

(c) $6\dfrac{11}{18}$

(d) $6\dfrac{7}{18}$

(e) None of these

58. 65% of 240 + ?% of 150 = 210

(a) 45

(b) 46

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(c) 32

(d) 36

(e) None of these

59. $\dfrac{2}{3}$ of $1\dfrac{2}{5}$ of 75% of 540 = ?

(a) 378

(b) 756

(c) 252

(d) 332

(e) None of these

60. 555.05 + 55.50 + 5.55 + 5 + 0.55 = ?

(a) 621.65

(b) 655.75

(c) 634.85

(d) 647.35

(e) None of these

61. 1425 + 8560 + 1680 ÷ 200 = ?

(a) 58.325

(b) 9973.4

(c) 56.425

(d) 9939.4

(e) None of these

62. ? % of 800 = 293 – 22% of 750

(a) 14

(b) 18

(c) 12

(d) 16

(e) 20

63. 25.6% of 250 + √? = 119

(a) 4225

(b) 3025

(c) 2025

(d) 5625

(e) None of these

64. $4\dfrac{5}{6} - 5\dfrac{5}{9} = ? -2\dfrac{1}{3} + \dfrac{11}{18}$

(a) $\dfrac{3}{4}$

(b) $2\dfrac{1}{18}$

(c) $1\dfrac{7}{9}$

(d) $1\dfrac{11}{18}$

(e) None of these

65. [30% of {(80% of 850) ÷ 34}] = ?

(a) 5

(b) 4

(c) 6

(d) 8

(e) 9

66. The sides of a triangle are in the ratio of $\dfrac{1}{2}$: $\dfrac{1}{3}$: $\dfrac{1}{4}$. If the perimeter is 52 cm, then the length of the smallest side is:

(a) 9 cm

(b) 10 cm

(c) 11 cm

(d) 12 cm

(e) None of these

67. If A's salary is 25% higher than B's salary, then how much per cent is B's salary lower than A's?

(a) 15%

(b) 20%

(c) 25%

(d) $33\dfrac{1}{3}$ %

(e) None of these

68. Ravi sells an article at a gain of $12\frac{1}{2}$ %. If he had sold it at Rs. 22.50 more, he would have gained 25% The cost price of the article is:
(a) Rs. 162
(b) Rs. 140
(c) Rs. 196
(d) Rs. 180
(e) None of these

69. A certain job was assigned to a group of men to do it in 20 days. But 12 men did not turn up for the job and the remaining men did the job in 32 days. The original number of men in the group was:
(a) 32
(b) 34
(c) 36
(d) 40
(e) None of these

70. A vessel contains liquid P and Q in the ratio 5 : 3. If 16 litres of the mixture are removed and the same quantity of liquid Q is added, the ratio become 3 : 5. What quantity does the vessel hold?
(a) 35 litres
(b) 45 litres
(c) 40 litres
(d) 50 litres
(e) None of these

Directions (Q.71-75): What should come in place of question mark (?) in following simplification problems?

71. 50% of 250 + √?= 165
(a) 1700
(b) 1600
(c) 1800

(d) 2000
(e) None of these

72. 140% of 56 + 56% of 140 = ?
(a) 78.4
(b) 158.6
(c) 156.6
(d) 87.4
(e) None of these

73. $1\frac{1}{4} + 1\frac{5}{9} \times 1\frac{5}{8} \div 6\frac{1}{2} = ?$
(a) 17
(b) 27
(c) 42
(d) 18
(e) None of these

74. 999.09 + 99.90 + 9.99 + 9 + 0.99 =?
(a) 1118.97
(b) 1128.97
(c) 1218.97
(d) 1139.97
(e) None of these

75. 20% of [{(220% of 40) − 10}]% of 500 = ?
(a) 58
(b) 68
(c) 98
(d) 78
(e) None of these

Directions (Q.76-80): What should come in place of question mark (?) in following number series ?

76. 5, 8, 12, 18, 27, ?
(a) 39
(b) 40
(c) 41

(d) 42
(e) 43

77. 2, 10, 30, 68, 130, ?
(a) 210
(b) 215
(c) 222
(d) 228
(e) 235

78. 142, 133, 115, 88, ?
(a) 50
(b) 53
 (c) 55
(d) 51
 (e) 52

79. 3, 8, 18, 38, 78, ?
(a) 158
(b) 154
(c) 150
(d) 162
 (e) 166

80. 6, 3, 3, 6, 24, ?
(a) 184
(b) 186
 (c) 188
(d) 190
(e) 192