

IBPS RRB Clerk Prelims 2017 | Memory Based Paper | For Practice

REASONING ABILITY

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:** $A < B > N = M, B \leq V, M > R$
Conclusions: I. $B > R$ **II.** $V > A$
 2. **Statements:** $D < E > F = G > H = I \leq J$
Conclusions: I. $F > I$ **II.** $J \geq E$
 3. **Statements:** $M < N < O > P, N < E$
Conclusions: I. $E < M$ **II.** $E > O$
 4. **Statements:** $C \geq D < E = F \geq G, C < W$
Conclusions: I. $E = G$ **II.** $G < E$
 5. **Statements:** $R < T < S < P > Q, R > X$
Conclusions: I. $S < Q$ **II.** $X < S$

Direction (6-10): Study the following information carefully and answer the question given below-
 Eight 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	À	&	>	≠	<	®	£	∞

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 odd 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

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 (e) None of these

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

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.
- 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
- 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.
- 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.
- 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.

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

QUANTITATIVE APTITUDE

- 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
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) $\frac{3}{26}$ (b) $\frac{2}{17}$ (c) $\frac{1}{26}$
 (d) $\frac{4}{13}$ (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. $4\frac{2}{3} + 7\frac{1}{6} - 5\frac{2}{9} = ?$
 (a) $6\frac{2}{3}$ (b) $6\frac{2}{9}$ (c) $6\frac{11}{18}$
 (d) $6\frac{7}{18}$ (e) None of these
58. 65% of 240 + ?% of 150 = 210
 (a) 45 (b) 46 (c) 32
 (d) 36 (e) None of these
59. $\frac{2}{3}$ of $1\frac{2}{5}$ 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. $1425 + 8560 + 1680 \div 200 = ?$
 (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 + $\sqrt{?} = 119$
 (a) 4225 (b) 3025 (c) 2025
 (d) 5625 (e) None of these
64. $4\frac{5}{6} - 5\frac{5}{9} = ? - 2\frac{1}{3} + \frac{11}{18}$
 (a) $\frac{3}{4}$ (b) $2\frac{1}{18}$ (c) $1\frac{7}{9}$
 (d) $1\frac{11}{18}$ (e) None of these
65. $[30\% \text{ of } \{(80\% \text{ of } 850) \div 34\}] = ?$
 (a) 5 (b) 4 (c) 6
 (d) 8 (e) 9
66. The sides of a triangle are in the ratio of $\frac{1}{2} : \frac{1}{3} : \frac{1}{4}$. 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) $33\frac{1}{3}\%$ (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. $50\% \text{ of } 250 + \sqrt{?} = 165$
 (a) 1700 (b) 1600 (c) 1800
 (d) 2000 (e) None of these
72. $140\% \text{ of } 56 + 56\% \text{ of } 140 = ?$
 (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 $[\{(220\% \text{ of } 40) - 10\}] \%$ 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

Solutions

REASONING ABILITY

1. (e); I. B > R (True) II. V > A (True)

2. (a); I. F > I (True) II. J ≥ E (False)

3. (d); I. E < M (False) II. E > O (False)

4. (c); I. E = G (False) II. G < E (False)

5. (b); I. S < Q (False) II. X < S (True)

Direction (6-10):

Floors	Persons
8	K
7	J
6	I
5	N
4	H
3	L
2	G
1	M

6. (d); 7. (c); 8. (a);

9. (c); 10. (e);

11. (c); Sathyarthi's position from left end = 10th
Sathyarthi's position from right end = 17th
Total number of children in the row
= 10 + 17 - 1 = 26

12. (b); Raj started walking towards west.

13. (c); By using condition (iii) the code of WX6ZF1 will be ^@£@\$∞.

14. (c); The code of FE1XI6 will be \$>^@μ£.

15. (a); By using condition (ii) the code of 5L2IA1 will be Δ!<μ&Δ.

16. (d); By using condition (i) the code of E2ZA6 will be +<@&+.

17. (b); By using condition (i) the code of IZ2W2 will be +@<∞+.

Direction (18-22):



18. (b); 19. (d); 20. (b);

21. (b); 22. (d);

23. (e);

^{1 3 2} ACB ^{4 6 5} DFE ^{7 9 8} GIH ^{10 12 11} JLK ^{13 14 15} MNO
So, the odd one out will be MNO.

24. (d); More than three

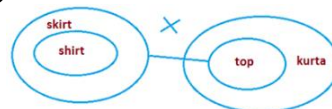
25. (b); 8

26. (a); 0

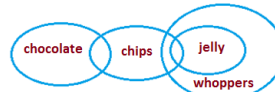
27. (d); 4

28. (b); Five

29. (d);



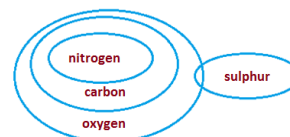
30. (e);



31. (e);



32. (a);



33. (a);



34. (c); SAD

35. (a); TWO

36. (a); None

37. (e); WON, TAR

38. (b); One

39. (b); 1

40. (d); Three- RS, HI, and PS

QUANTITATIVE APTITUDE

41. (a); Cost price = $\frac{100}{110} \times \frac{100}{115} \times \frac{100}{125} \times 1265 = \text{Rs. } 800$

42. (a); In one hour, $\frac{1}{6}$ of the cistern can be filled

In one hour, only $\frac{1}{7}$ of the cistern can be filled due to leak in its bottom

\therefore In one hour $\frac{1}{6} - \frac{1}{7} = \frac{1}{42}$ of the cistern is empty

\therefore The whole cistern will be emptied in 42 hrs

43. (b); Let D be the required distance

$$\text{So, } \frac{D}{3} - \frac{D}{4} = \frac{15+15}{60}$$

$$\text{Or, } D = 6 \text{ km}$$

44. (b); Let, M = 3K, W = 2K

$$\therefore 3K + 2K = 45 \Rightarrow K = 9$$

\Rightarrow Milk = 27 litres and water = 18 litres

Now suppose x litres of water is added to the mixture such that

$$\frac{27}{18+x} = \frac{9}{11} \Rightarrow 162 + 9x = 297$$

$$\Rightarrow 9x = 135 \Rightarrow x = 15$$

45. (a); Let the speed of the current be x Km/h and speed of the person in still water be y km/h.

$$\therefore y + x = 8$$

$$y - x = 6 \Rightarrow y = 7, x = 1$$

\therefore Speed of the current = 1 Km/h.

46. (a); Let the father's age be x years and age of his children be a and b years

$$\therefore (a + b) = \frac{x}{3}$$

$$\text{And } (a + b) + 20 + 20 = x + 20$$

$$\Rightarrow \frac{x}{3} + 20 = x \Rightarrow x = 30 \text{ years}$$

47. (a); Simple interest for 1 year = $\frac{5100}{3} = \text{Rs } 1700$

1% of sum = 1700

$$\therefore \text{sum} = \frac{1700 \times 100}{1} = \text{Rs } 170000$$

48. (a); One principal can be appointed in 36 days

One vice-principal appointed in remaining 35 ways

\therefore Total no. of ways = $36 \times 35 = 1260$.

49. (b); \therefore Required probability

$$= \frac{{}^{13}C_2 + {}^{13}C_2}{{}^{52}C_2}$$

$$= \frac{78+78}{1326} = \frac{156}{1326} = \frac{2}{17}$$

Alternately,

Required probability

$$= \frac{13}{52} \times \frac{12}{51} + \frac{13}{52} \times \frac{12}{51}$$

$$= 2 \times \frac{13}{52} \times \frac{12}{51} = \frac{2}{17}$$

50. (b); Let, P be the sum.

$$\therefore 16632 = P \left(1 + \frac{5}{100}\right) \left(1 + \frac{10}{100}\right) \left(1 + \frac{20}{100}\right)$$

$$\text{Or, } 16632 = P \times \frac{21}{20} \times \frac{11}{10} \times \frac{6}{5}$$

$$\text{Or, } P = \text{Rs. } 12,000$$

51. (b); Required difference = $(40 + 80) - (12 + 58)$
 $= 120 - 70 = 50$

52. (c); Required ratio = $\frac{92+98}{13+47} = \frac{190}{60} = 19 : 6$.

53. (a); Required percentage

$$= \frac{48+12}{15} \times 100 = \frac{60}{15} \times 100 = 400\%$$

54. (e); Average = $\frac{27+15+60}{3} = \frac{102}{3} = 34$.

55. (d); Windows phones sold by P on Thursday

$$= \frac{3}{7} \times 28 = 12$$

56. (b); $\frac{45}{100}$ of 600 + $\frac{?}{100}$ of 480 = 390
 $\Rightarrow 270 + 4.8 \times ? = 390$
 $\therefore ? = \frac{390-270}{4.8} = 25$

57. (c); $? = \frac{14}{3} + \frac{43}{6} - \frac{47}{9} = \frac{84+129-94}{18} = \frac{119}{18} = 6\frac{11}{18}$

58. (d); $\frac{65}{100}$ of 240 + $\frac{?}{100}$ of 150 = 210
 $\Rightarrow 156 + 1.5 \times ? = 210$
 $\therefore ? = \frac{210-156}{1.5} = 36$

59. (a); $? = \frac{2}{3}$ of $\frac{7}{5}$ of $\frac{75}{100}$ of 540 = $7 \times 54 = 378$

60. (a); $? = 555.05 + 55.50 + 5.55 + 5 + 0.55$
 $= 621.65$

61. (e); $? = 1425 + 8560 + 1680 \div 200$
 $= 1425 + 8560 + \frac{1680}{200}$
 $= 9985 + 8.4 = 9993.4$

62. (d); $\frac{800 \times ?}{100} = 293 - \frac{750 \times 22}{100}$
 $\Rightarrow 8 \times ? = 293 - 165 = 128$
 $\Rightarrow ? = \frac{128}{8} = 16$

63. (b); $250 \times \frac{25.6}{100} + \sqrt{?} = 119$
 $\Rightarrow 64 + \sqrt{?} = 119$
 $\Rightarrow \sqrt{?} = 119 - 64 = 55$
 $\Rightarrow ? = 55 \times 55 = 3025$

64. (e); $4 + \frac{5}{6} - 5 - \frac{5}{9} = ? - 2 - \frac{1}{3} + \frac{11}{18}$
 $\Rightarrow ? = 4 - 5 + 2 + \left(\frac{5}{6} - \frac{5}{9} + \frac{1}{3} - \frac{11}{18}\right)$
 $\Rightarrow 1 + \left(\frac{15-10+6-11}{18}\right) = 1 + 0 = 1$

65. (c); $? = \left[\frac{30}{100} \times \left\{\left(\frac{80}{100} \times 850\right) \div 34\right\}\right]$
 $= \left[\frac{30}{100} \times \{680 \div 34\}\right]$
 $= \left[\frac{30}{100} \times 20\right] = 6$

66. (d); Sides of a triangle are in ratio $\frac{1}{2} : \frac{1}{3} : \frac{1}{4}$, i.e.,
 $6 : 4 : 3$.
 Let the sides be 6K, 4K and 3K, respectively.
 $\therefore 13K = 52 \Rightarrow K = 4$
 \therefore Sides of the triangle are 24 cm, 16 cm and 12 cm, respectively.

67. (b); $A = B + 25\% \text{ of } B \Rightarrow A = B + \frac{B}{4} = \frac{5B}{4}$
 $\Rightarrow B = \frac{4}{5}A = A - \frac{1}{5}A = A - 20\% \text{ of } A$

68. (d); $12\frac{1}{2}\% = \text{Rs } 22.50 \Rightarrow \text{C.P.} = \text{Rs } 180$.

69. (a); Suppose $x =$ original number of men in the group
 $\therefore (x - 12)$ men did the job in 32 days
 $\therefore 20x = 32(x - 12)$
 i.e., $x = 32$

70. (c); Let, the quantity of liquid P and Q be $5x$ and $3x$ litres respectively.

Quantity of P removed = $\frac{5}{5+3} \times 16 = 10$ litres
 Quantity of Q removed = $\frac{3}{5+3} \times 16 = 6$ litres

Now, $\frac{5x-10}{3x-6+16} = \frac{3}{5}$
 $\Rightarrow 25x - 50 = 9x + 30$
 $\Rightarrow 16x = 80 \Rightarrow x = 5$
 \therefore Quantity that vessel hold = $8 \times 5 = 40$ litres

71. (b); $\frac{50}{100}$ of 250 + $\sqrt{?} = 165$
 $\Rightarrow 125 + \sqrt{?} = 165$
 $\Rightarrow \sqrt{?} = 40$
 $\therefore ? = (40)^2 = 1600$

72. (e); $\frac{140}{100}$ of 56 + $\frac{56}{100}$ of 140
 $= 78.4 + 78.4 = 156.8$

73. (e); $? = 1\frac{1}{4} + 1\frac{5}{9} \times 1\frac{5}{8} \div 6\frac{1}{2} = \frac{5}{4} + \frac{14}{9} \times \frac{13}{8} \div \frac{13}{2}$
 $= \frac{5}{4} + \frac{14}{9} \times \frac{13}{8} \times \frac{2}{13}$
 $= \frac{5}{4} + \frac{7}{18} = \frac{45+14}{36} = \frac{59}{36} = 1\frac{23}{36}$

74. (a); $999.09 + 99.90 + 9.99 + 9 + 0.99$
 $= 1118.97$

75. (d); $\frac{20}{100} \times \left[\left\{\left(\frac{220}{100} \times 40\right) - 10\right\}\right] \% \text{ of } 500 = ?$
 $\frac{1}{5} \times \{[88 - 10]\} \% \text{ of } 500 = ?$
 $\frac{1}{5} \times \frac{78}{100} \times 500 = ?$
 $? = 78$

76. (b);

5	8	12	18	27	40
+3		+4		+6	
+1			+2		+3
+1				+4	

77. (c);

2	10	30	68	130	222
+8		+20		+38	
+12			+18		+24
+12				+30	

78. (e);

142	133	115	88	52
-9		-18		-27
-9			-18	
-9				-36

79. (a);

3	8	18	38	78	158
+5		+10		+20	
+5			+10		+20
+5				+20	

80. (e);

6	3	3	6	24	192
$\times 0.5$		$\times 1$		$\times 2$	
$\times 0.5$			$\times 1$		$\times 2$
$\times 0.5$				$\times 8$	

