



NATIONAL TALENT SEARCH EXAMINATION
(NTSE-2019) STAGE -1
'GUJARAT' STATE PAPER : MAT

Date: 04/11/2018

Max. Marks: 100

SOLUTIONS

Time allowed: 120 Minutes

Instruction: In each of the following question no. 1 to 10, a number series is given with missing of one term. Choose the correct alternative that will continue the same pattern and replace the question mark (?) in the given series.

1. 2, 3, 5, 9, 17, ?

(A) 34

(B) 31

(C) 32

(D) 33

Ans. (D)

2, 3, 5, 9, 17, 33

Sol. $\frac{2}{+1} \frac{3}{+2} \frac{5}{+4} \frac{9}{+8} \frac{17}{+16} \frac{33}{}$

2. 2, 7, 12, 17, ?, 27

(A) 18

(B) 22

(C) 19

(D) 23

Ans. (B)

2, 7, 12, 17, 22, 27

Sol. $\frac{2}{+5} \frac{7}{+5} \frac{12}{+5} \frac{17}{+5} \frac{22}{+5} \frac{27}{}$

3. 11, 121, 1331, ?

(A) 14641

(B) 14411

(C) 14141

(D) 1441

Ans. (A)

11, 121, 1331, 14641

Sol. $11^1 \quad 11^2 \quad 11^3 \quad 11^4$

4. 656, 432, 320, 254, 236?

(A) 229

(B) 232

(C) 222

(D) 223

Ans. (C)

656, 432, 320, 254, 236, 222

Sol. $\frac{656}{-224} \frac{432}{-112} \frac{320}{-56} \frac{254}{-28} \frac{236}{-14} \frac{222}{}$

5. 3, 19, 97, 391, ?, 2359

(A) 1177

(B) 1084

(C) 1711

(D) 1958

Ans. (A)

3, 19, 97, 391, ?, 2359
 Sol. $\frac{3}{\times 6+1} \quad \frac{19}{\times 5+2} \quad \frac{97}{\times 4+3} \quad \frac{391}{\times 3+4} \quad \frac{?}{\times 2+5} \quad \frac{2359}{\times 1+6}$

6. 2, 7, 24, 77, ?

- (A) 1335 (B) 249 (C) 283 (D) 238

Ans. (D)

11, 7, 24, 77, 238

Sol. $\frac{11}{\times 3+1} \quad \frac{7}{\times 3+3} \quad \frac{24}{\times 3+5} \quad \frac{77}{\times 3+7} \quad \frac{238}{\times 3+9}$

7. 11, 5, 13, 10, 15, 15, 17, ?, ?

- (A) 5, 11 (B) 20, 19 (C) 19, 21 (D) 19, 20

Ans. (B)

11, 5, 13, 10, 15, 15, 17, 20, 19
 Sol. $\frac{11}{+2} \quad \frac{5}{+2} \quad \frac{13}{+2} \quad \frac{10}{+2} \quad \frac{15}{+2} \quad \frac{15}{+2} \quad \frac{17}{+2} \quad \frac{20}{+2} \quad \frac{19}{+2}$

8. 1331, 2197, 4913, 6859, ?, 24389

- (A) 13824 (B) 9261 (C) 12167 (D) 15625

Ans. (C)

1331, 2197, 4913, 6859, 12167, 24389

Sol. $11^3 \quad 13^3 \quad 17^3 \quad 19^3 \quad 23^3 \quad 29^3$

Consecutive prime numbers

11, 13, 17, 19, 23, 29

9. 97, 86, 99, 88, 101, ?, ?

- (A) 9, 13 (B) 88, 99 (C) 121, 108 (D) 114, 103

Ans. (A)

97, 86, 99, 88, 101, 90, 103
 Sol. $\frac{97}{+2} \quad \frac{86}{+2} \quad \frac{99}{+2} \quad \frac{88}{+2} \quad \frac{101}{+2} \quad \frac{90}{+2} \quad \frac{103}{+2}$

10. 77, 49, 36, 18, ?

- (A) 10 (B) 12 (C) 8 (D) 16

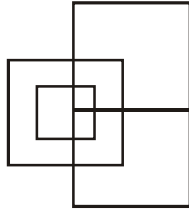
Ans. (C)

77, 49, 36, 18, 8
 Sol. $\frac{77}{7 \times 7} \quad \frac{49}{4 \times 9} \quad \frac{36}{3 \times 6} \quad \frac{18}{1 \times 8} \quad \frac{8}{1 \times 8}$

Multiplication of digits gives succeeding term.

Instruction: In question no. 11 to 20, figures are given with question mark (?). Complete the figure replacing question mark (?) with suitable number logically.

11. How many line segments are there in the given figure?

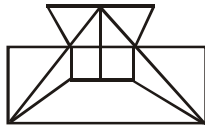


- (A) 12 (B) 13 (C) 14 (D) 15

Ans. (B)

Sol. By Counting

12. How many line segments are there in the given figure?



- (A) 19 (B) 18 (C) 17 (D) 16

Ans. N/A

Sol. Correct option not given

13. How many triangles are there in the given figure?

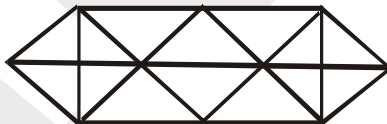


- (A) 26 (B) 22 (C) 18 (D) 12

Ans. (C)

Sol. By Counting

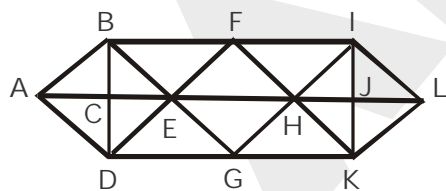
14. How many triangles are there in the given figure?



- (A) 28 (B) 24 (C) 14 (D) 10

Ans. (A)

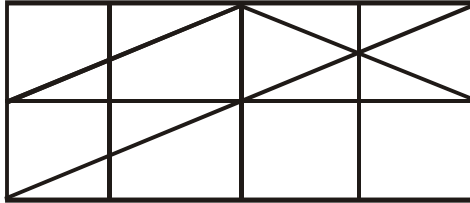
Sol.



The triangles in the given figure are
 ABC, BCE, ECD, DCA = 4
 ADB, DEB, ABE, ADE = 4
 IJL, LJK, KJH, HJI = 4
 ILK, IKH, HIL, HLK = 4

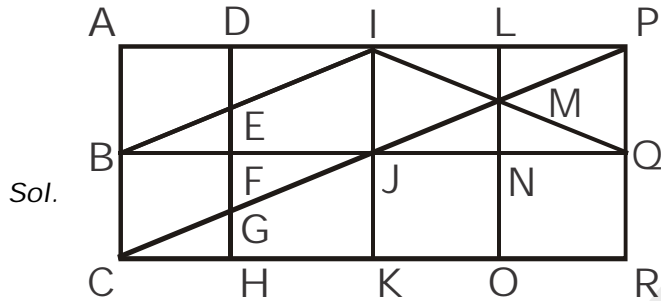
BEF, EFH, FHI, DEG, EGH, GHK = 6
 DFK, BGI, DBF, FIK, GIK, DGB = 6
 Total = 4+4+4+4+6+6 = 28

15. How many triangles are there in the given figure?



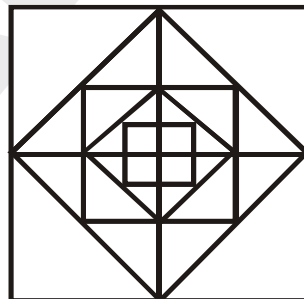
- (A) 29 (B) 23 (C) 19 (D) none of these

Ans. (B)



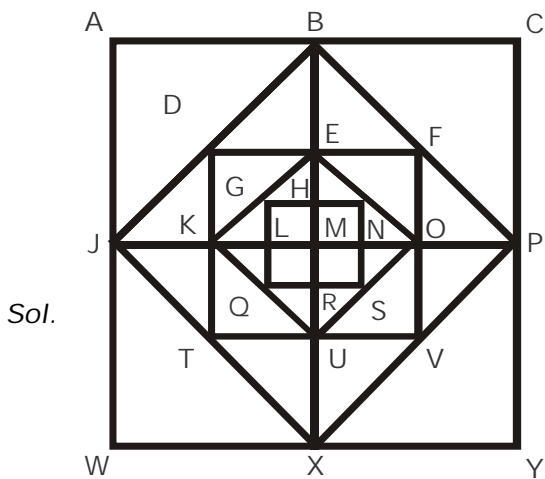
The triangles in the given figure are
 ILM, LM, P, PMQ, NMQ, JNM, JMI = 6
 IPM, JMQ, JIP, IQP, PQO, IOJ = 6
 DEI, ABI, EFB, IJF = 4
 BCJ, FGJ, JKC, GHC = 4
 BIQ, ACP, RCP = 3
 Total = 6+6+4+4+3 = 23

16. How many squares are there in the given figure?



- (A) 16 (B) 17 (C) 12 (D) 13

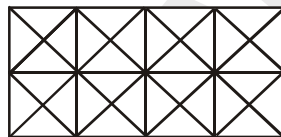
Ans. (B)



Sol.

The squares in the figure is given below
 GHLM, HMNI, RMNS, LMRQ, GISQ = 5
 DEMK, EFMO, KTMU, MOVV, DFTU = 5
 ABMJ, JMXW, BCMP, MPXY, ACYW = 5
 BPJX, EKUO = 2
 Total number of squares $5 + 5 + 5 + 2 = 17$

17. How many square are there in the given figure?



(A) 11

(B) 21

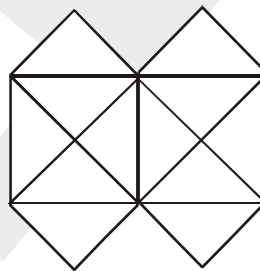
(C) 24

(D) 26

Ans. (C)

Sol. By Counting

Answer question no. 18 to 20 on the basis of given figure.



18. How many line segments are there in the given figure?

(A) 33

(B) 13

(C) 36

(D) 21

Ans. (B)

Sol. By Counting

19. How many triangles are there in the given figure?

(A) 12

(B) 16

(C) 22

(D) 24

Ans. (C)

Sol. By Counting

20. How many squares are there in the given figure?

- (A) 5 (B) 6 (C) 7 (D) 8

Ans. (C)

Sol. By Counting

Instruction : In question no.21 to 30, English alphabets are given digital number/code. Using them, find the correct digital number/code for given English word by choosing the correct option given below.

21. B, F, J, N, R, V, Z, D, H, L, ?

- (A) M (B) O (C) P (D) T

Ans. (C)

Sol. In given series letter number + 4 gives subsequent letter.

22. ABC, EFG, JKL, PQ ?

- (A) R (B) S (C) T (D) U

Ans. (A)

Sol. In each term in the series there is a group of three consecutive letters.

23. DD, jjj, PP, vvv, B?

- (A) BB (B) B (C) C (D) cc

Ans. (B)

Sol. Letters are repeating twice and thrice subsequently.

24. AHL, ?, CFJ, DEI

- (A) BGK (B) BKG (C) GKB (D) GBK

Ans. (A)

Sol. First letter of each term is in increasing order by +1, second letter is in decreasing order by -1, third letter is in decreasing order by -1.

25. R, A, M, E, S, H, H, S, E, M, A, ?

- (A) Z (B) Y (C) R (D) W

Ans. (C)

Sol. First 6 letters are written in reverse order from 7th position.

26. A, C, F, J, O, ? B,

- (A) I (B) H (C) U (D) D

Ans. (C)

Sol. $A=1, A+2=C, C+3=F, \dots$, therefore $O+6=U$

27. $\frac{A}{4}, \frac{D}{9}, \frac{H}{15}, \frac{M}{22}$

- (A) $\frac{R}{30}$ (B) $\frac{Q}{31}$ (C) $\frac{Q}{30}$ (D) $\frac{S}{30}$

Ans. (D)

Sol. In numerator the letters are in increasing order by +3, +4, +5, ... so on and in denominator the numbers are in increasing order by +5, +6, +7, ... and so on

28. LU TUPLUBTU LUBT P UBTUP

- (A) BPUL (B) BUPL (C) LBPU (D) PBUL

Ans. (A)

Sol. The group of Letters "LUBTUP" are repeating.

29. KM5, IP8, GS11, EV14, ?

- (A) BY17 (B) BX17 (C) CY17 (D) CY18

Ans. (C)

Sol. In each term the first letter is decreased by 2, the second letter increased by 3 and the third numbers are increased by 3.

30. ABC, 6, EFG, 210, IJK, ?

- (A) 1000 (B) 190 (C) 999 (D) 990

Ans. (D)

Sol. Each letter numbered of each term are multiplied to get next term.

Instruction : For figures are given in question no. 31 to 40. One of the figure differ from the rest. Find the figure which is differ from others.



Ans. (D)

Sol. Each figure are made up of line segment except figure (D)



Ans. (D)

Sol. Each figure are mirror image of letters except figure (D).



Ans. (D)

Sol. In first three figures either hands or legs are bent except figure (D)



Ans. (C)

Sol. The difference of line segments of interior and exterior figure are of two except in figure (C).



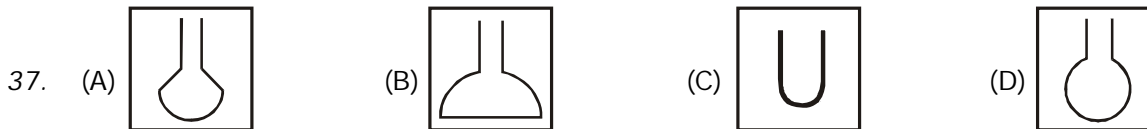
Ans. (A)

Sol. All figures are made up of line segments except figure (A)



Ans. (D)

Sol. The extreme figure in the line segments are same except in figure (D)



Ans. (C)

Sol. All figures are having neck like shape except figure (C)



Ans. (C)

Sol. The triangle is not present in figure (C)



Ans. (D)

Sol. The figure (D) is have breaking line segment.



Ans. (C)

Sol. Two congruent figures partially overlap each other except in figure (C)

Instruction : In question no.41 to 50, English alphabetws are given digital number/code. Using them, Find the correct digital number/code for guven English word by choosing the correct option given below.

41. If CAT is written ATC in sign language DEAR is written EARD in sign language. Then, How sign will be written in sign language.

- (A) INGS (B) NGSI (C) SNGI (D) SGIN

Ans. NA

Sol. The letters are changing its position from 1st to last position, 2nd to 1st position, 3rd to 2nd position and so on. So answer must be "IGNS" which is not given in options.

42. If 'no more food' is written 'ta ka da' in sign language and 'more then that' is written 'sa pa ka' then what will be written for 'that in the sign.

- (A) sa (B) ka (C) sa and pa (D) incomplete information

Ans. (D)

Sol. The code for "more" is "ka" but the code for "that" may be "pa" or "sa".

43. If LAP is written KMZBOQ in sign language then what will be written for NOTE ?

- (A) MONPSUFD (B) MONPUSDF (C) MNOPSUDE (D) MONPSUDF

Ans. (D)

Sol. The preceding and succeeding letter of each letter of LAP is used in sign language as KMZBOQ, similarly for NOTE sign language is MONPSUDF.

44. If E = 5 and EMPIRE = 66 then what will be written for REPAIR ?

- (A) 66 (B) 67 (C) 12 (D) 13

Ans. (B)

Sol. Sum of each letter numbered.

45. If SSC is written 19193 in sign language then what will be written for BBC ?

- (A) 113 (B) 221 (C) 223 (D) 213

Ans. (C)

Sol. Letter numbered are used in sign language. So BBC become 223 in sign language.

46. If CHARACTER is written 241612376 and CHILDREN is written 24859670 in sign language, then what will be written for HIRALAL ?

- (A) 4861551 (B) 4861515 (C) 48651551 (D) 4681515

Ans. (B)

Sol. Here each letter is letter is coded with particular number like C as 2, H as 4, A as 1, R as 6, T as 3, L as 5, I as 8. Hence HIRALAL is coded as 4861515

47. If APPLE is written ETTP1 in sign language then what will be written for DELHI ?

- (A) HIPLM (B) ZAHDE (C) HPILM (D) CQMND

Ans. (A)

Sol. Each letters are skipped by 3 in sign language.

48. If DOCUMETNS is written VDPENRSMD then what will be written for ADVERTISE ?

- (A) FWEBDSRHS (B) FWEBSDRHS (C) FWBESRDHS (D) FWEBSFMLD

Ans. N/A

Sol. Correct option not given.

49. If A = 1 and AND = 19 then what is for BAT ?

- (A) 22 (B) 23 (C) 21 (D) 20

Ans. (B)

Sol. Sum of letter numbered

50. If MEAN is written \$57★, DOME is written 93\$5 then what will be written for MOAN ?

- (A) 3\$7★ (B) \$73★ (C) \$37★ (D) \$★37

Ans. (C)

Sol. M is coded as \$, O is coded as 3, A as 7, N as ★

Instruction : Four option are given in question no.51 to 60. One of hte option differs from the rest. Find out that different option.

51. (A) Iron (B) Silver (C) Gold (D) Brass

Ans. (D)

Sol. Except Brass all options given are pure elements.

52. (A) cotton : tea (B) milk : card (C) grapes : wine (D) bamboo : paper

Ans. (A)

Sol. All second part are made up of first part except option (A).

53. (A) 6023 (B) 7202 (C) 4025 (D) 5061

Ans. (D)

Sol. Sum of all digits is 11 except in option (D).

54. (A) Writer (B) Publisher (C) Poet (D) Novelist

Ans. (B)

Sol. Publisher does not belong to the group of Writer, Poet and Novelist

55. (A) Violin (B) Sitar (C) Flute (D) Veena

Ans. (C)

Sol. Flute is only the mouth playing instrument.

56. (A) Conclusion (B) Research (C) Analysis (D) Investigation

Ans. (A)

Sol. All except option (A) are synonyms.

57. (A) Pathology (B) Biology (C) Cardiology (D) Radiology

Ans. (B)

Sol. Pathology, Cardiology and Radiology are parts of Biology.

58. (A) Sports : Coach (B) Drama : Director (C) Advice : Adviser (D) Student : Teacher

Ans. (D)

Sol. Option (D) represents both student and teacher are living things.

59. (A) Plastic (B) Nylon (C) Silk (D) Polythene

Ans. (C)

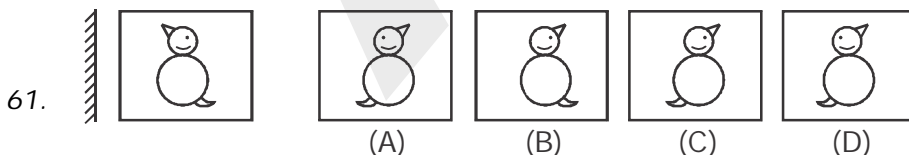
Sol. Plastic, Nylon and Polythene belong to same group.

60. (A) Bangkok (B) Jindal (C) Rangoon (D) Kabul

Ans. (B)

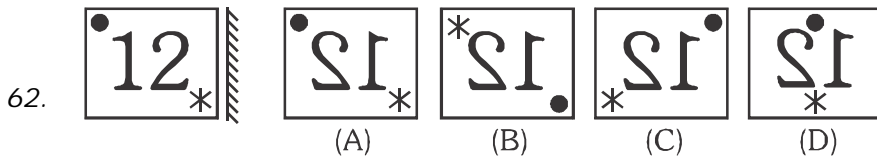
Sol. All except Jindal are capital cities.

Instruction: Find out the correct mirror image in question no.61 to 65.



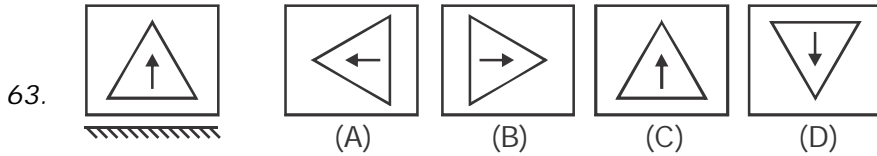
Ans. (A/D)

Sol. Both options are same.



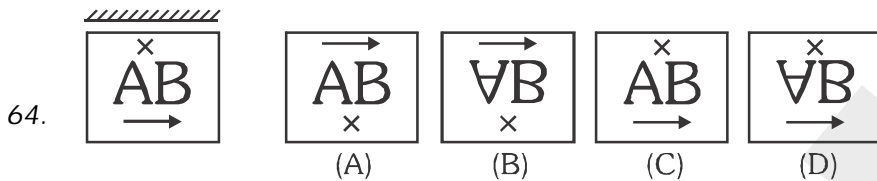
Ans. (C)

Sol. By observation



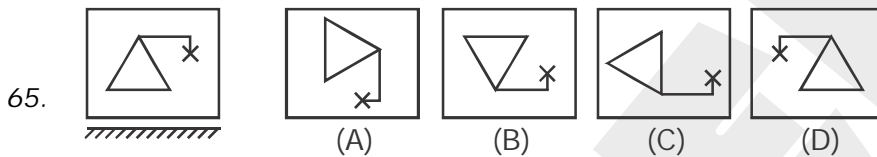
Ans. (D)

Sol. By observation



Ans. (B)

Sol. By observation



Ans. (B)

Sol. By observation

Instruction: Find out the correct co-relation in question no. 66 to 70.

66. India : Ashok Chakra, France : ?

- (A) Eagle (B) Lily (C) Rose (D) Lotus

Ans. (A)

Sol. Option (A) is a symbol present in France's flag.

67. London : Thames, Delhi : ?

- (A) Yamuna (B) Godavari (C) Krishna (D) Kaveri

Ans. (A)

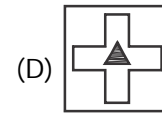
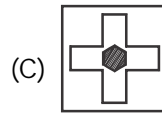
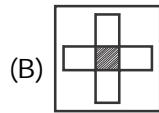
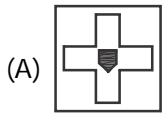
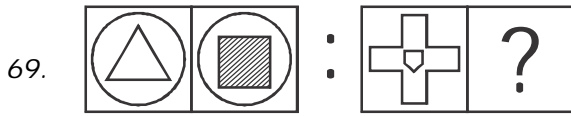
Sol. Option (A) is a river belong to Delhi.

68. India : CBI, Pakistan : ?

- (A) NDT (B) ISI (C) CBSE (D) none

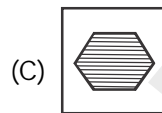
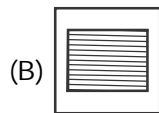
Ans. (D)

Sol. Correct option not given.



Ans. (C)

Sol. By observation



Ans. (C)

Sol. By observation

Instruction : According to the question, choose the correct option logically in question no. 71 to 75.

71. (1) Index (2) Contents (3) Title (4) Chapters (5) Introduction

(A) 2,3,4,5,1

(B) 3,5,2,4,1

(C) 5,1,4,2,3

(D) 3,2,5,1,4

Ans. (B)

Sol. The format of book is according to given in option (B).

72. (1) Embryo (2) Child (3) Baby (4) Middle Aged (5) Young

(A) 1,3,4,5,2

(B) 1,2,3,4,5

(C) 1,3,2,5,4

(D) 1,3,4,2,5

Ans. (C)

Sol. Biological order

73. (1) Poverty (2) Population (3) Death (4) Unemployment (5) Disease

(A) 2,4,1,5,3

(B) 1,2,3,4,5

(C) 2,3,4,5,1

(D) 2,4,5,1,3

Ans. (A)

Sol. No description required

74. (1) Accident (2) Judge (3) Doctor (4) Lawyer (5) Police

(A) 1,3,4,2,5

(B) 1,3,5,4,2

(C) 1,2,3,4,5

(D) 1,2,5,4,3

Ans. (B)

Sol. No description required

75. (1) Golden Jubilee (2) Silver Jubilee (3) Anniversary (4) Diamond Jubilee (5) Centenary Celebrations

(A) 2,1,3,4,5

(B) 2,3,4,5,1

(C) 3,1,2,4,5

(D) 3,2,1,4,5

Ans. (D)

Sol. No description required

Instruction : Follow the instruction and choose the correct option in question no.76 to 80.

76. If \times means $+$, \div means \times , $+$ means $-$ and $-$ means \div then $24 + 36 - 12 \times 8 \div 4 = ?$
(A) 36 (B) 53 (C) 5 (D) -20

Ans. (B)

Sol. $24 - 36 \div 12 + 8 \times 4 = 24 - 3 + 32 = 56 - 3 = 53$

77. If \div means $+$, $-$ means \times , \times means \div and $+$ means $-$ then $15 - 8 \times 6 \div 12 + 4 = ?$
(A) 20 (B) $8\frac{4}{7}$ (C) $2\frac{2}{7}$ (D) 8

Ans. (D)

Sol. $15 \times 8 \div 6 + 12 - 4 = \frac{15 \times 8}{6} + 12 - 4 = 20 + 8 = 28$

78. If \div means $+$, $-$ means \times , $+$ means $-$ and \times means \div then $14 - 4 \times 7 \div 12 + 8 = ?$
(A) 12 (B) 20 (C) $5\frac{1}{11}$ (D) 8

Ans. (A)

Sol. $14 \times 4 \div 7 + 12 - 8 = 8 + 12 - 8 = 12$

79. If \div means \times , $+$ means \div , $-$ means $+$ and \times means $-$ then $20 - 16 + 4 \times 3 \div 2 = ?$
(A) 16 (B) 30 (C) 18 (D) 24

Ans. (C)

Sol. $20 + 16 \div 4 - 3 \times 2 = 20 + 4 - 6 = 18$

80. If A means $-$, B means \div , C means $+$, D means \times then $15B3C24A12D2 = ?$
(A) 3 (B) 5 (C) 7 (D) 9

Ans. (B)

Sol. $15 \div 3 + 24 - 12 \times 2 = 5 + 24 - 24 = 5$

Instruction : Follow the instruction and choose the correct answer from the option (que. 81 to 100)

81. If third Friday is on 16th of a month then what will be the date of fourth Tuesday of same month?
(A) 20 (B) 22 (C) 27 (D) 29

Ans. (C)

Sol. Fourth Friday will be on 23rd of a month and fourth Tuesday will be on 27th of the month.

82. Today is Monday. Which will be the day after 65 days?

(A) Wednesday (B) Friday (C) Saturday (D) Sunday

Ans. (A)

Sol. Divide 65 by 7 we get 2 as remainder so after 65th day it will be Wednesday.

83. 1st January, 2000 was Saturday then which day will be there on 1st January, 2001.

(A) Monday (B) Tuesday (C) Friday (D) Saturday

Ans. (A)

Sol. There will be two odd days from 1st January, 2000 to 1st January, 2001 so there will be Monday.

84. Which will be the Leap Year?

- (A) 2800 (B) 1800 (C) 2600 (D) 300

Ans. (A)

Sol. Only 2800 is divisible by 400

85. R is sister of M and M is brother of H. D is mother of K, and K is brother of M then what is the relation between R and D?

- (A) Sister (B) Daughter (C) Mother (D) Incomplete information

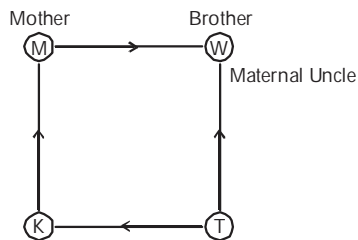
Ans. (B)

Sol. Proper relationship is not given in options.

86. K is brother of T, M is mother of K, W is brother of M then what is then

- (A) Maternal Uncle (B) Grand Father (C) Paternal Uncle (D) None of these

Ans. (A)



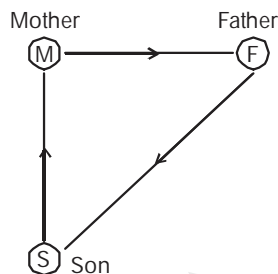
Sol.

From figure option (A) is correct.

87. Mohan pointing his finger to a photo, and said that "The only child of his mother is the only son of my father." Then whose photo is Mohan pointing?

- (A) Brother (B) Himself (C) Paternal Cousin (D) Maternal Cousin

Ans. (B)



Sol.

From figure option (B) is correct.

88. What will be my relations with the daughter of my paternal aunt's father's son?

- (A) Paternal aunt (B) Sister (C) Niece (Brother Daughter) (D) Niece (Sister Daughter)

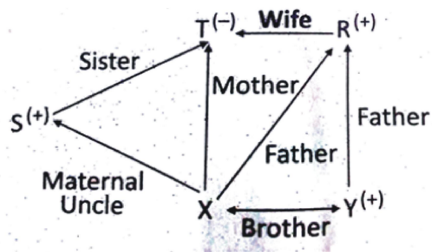
Ans. (B)

Sol. Paternal aunt's father's son will be father of the person so his daughter will be sister of that person.

89. X and Y are brother. R is father of Y. S is brother of T nad maternal uncle of X. Then what is the relation of T and R?

- (A) Wife (B) Mother (C) Sister (D) Brother

Ans. (A)



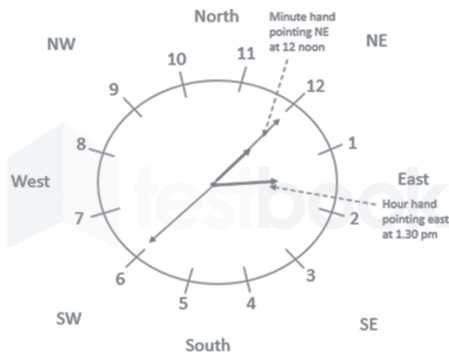
Sol.

From figure option (A) is correct.

90. A clock is kept in a way that at 12 o'clock its minute hand is in north east direction. Then what will be the direction of hour hand at 1:30?

- (A) North (B) South (C) East (D) West

Ans. (C)



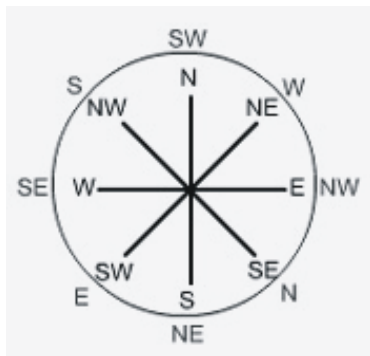
Sol.

From figure option (C) is correct.

91. If south east is north and north east is west and goes ahead in same direction then what will be the direction of west?

- (A) south west (B) north east (C) south east (D) north west

Ans. (C)



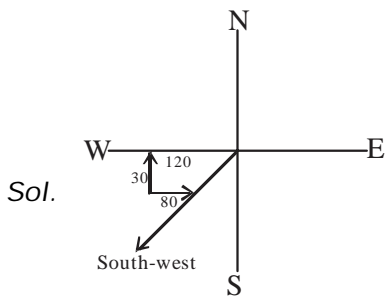
Sol.

From figure option (C) is correct.

92. A train runs 120 km in the west, then it runs 30 km in the south and 80 km in the east again before reaching the station, in which direction the station will be from the starting point of the train?

- (A) south east (B) north west (C) south (D) south west

Ans. (D)

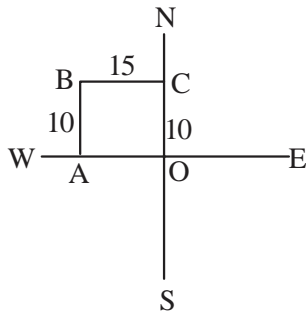


From figure station will be in the south west direction.

93. Ram stands out towards the north. He walks directly (straight) 10 km. Then he turns left and walks 15 km and then turns left and walks 10 km. Then how far is he from the starting point?

- (A) 10 km (B) 5 km (C) 12 km (D) 15 km

Ans. (D)



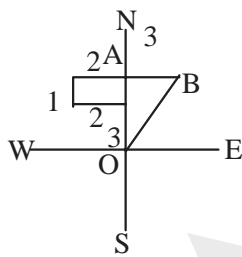
Sol.

From figure it is clear that $BC = AO = 15$ km

94. A man walks 3 km north from his house. Then turns left and walks 2 km. Then turns right and walks 1 km. At last he turns right and walks 5 km. How far is he from his house?

- (A) 3 km (B) 6 km (C) 4 km (D) 5 km

Ans. (D)



Sol.

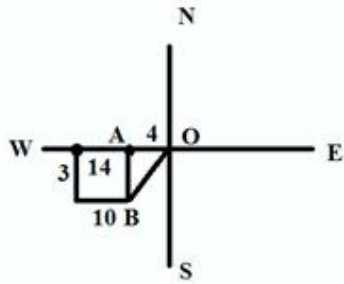
$$OB^2 = OA^2 + AB^2 = 4^2 + 3^2 = 16 + 9 = 25$$

$$OB = 5 \text{ km}$$

95. Nitin walks 14 km west then he goes 3 km south. Afterwards he walks 10 km towards east. How far is he from his starting point?

- (A) 5 km (B) 12 km (C) 15 km (D) 10 km

Ans. (A)



Sol.

96. Proportion ratio of the age of A & B is 3 : 2 today. After 5 years it will be 8 : 7. What is the sum of the age of both?
 (A) 8 year (B) 5 year (C) 10 year (D) none of these

Ans. (B)

Sol. Let present age of A = $3x$ and present age of B = $2x$ years.
 Age of A after 5 years = $3x + 5$; Age of B after B = $2x + 5$
 As per given information,

$$\frac{3x + 5}{2x + 5} = \frac{8}{7}$$

$$\therefore 21x + 35 = 16x + 40$$

$$\therefore 5x = 5$$

$$\therefore x = 1$$

Sum of their ages = $3x + 2x = 5x = 5(1) = 5$

97. Sum of Lucky & Suman age is 35 years today. Proportion ratio will be 4 : 5 after 5 years. What is the age difference between then now?
 (A) 3 year (B) 6 year (C) 5 year (D) 4 year

Ans. (C)

Sol. Let Lucky's age after 5 years = $4x$ and Suman's age after 5 years = $5x$
 Lucky's present age = $4x - 5$ and Suman's present age = $5x - 5$
 As per given information, $4x - 5 + 5x - 5 = 35$

$$\therefore 9x - 10 = 35$$

$$\therefore 9x = 35 + 10 = 45$$

$$\therefore x = 5$$

Lucky's present age = $4(5) - 5 = 20 - 5 = 15$ years
 Suman's present age = $5(5) - 5 = 25 - 5 = 20$ years
 Difference of age = $20 - 15 = 5$ year

98. Father's age is 8 years plus of thrice son's age. Mother's age is 3 years more than father's age. If son's age is 7 years then what is the age of mother?
 (A) 26 year (B) 29 year (C) 32 year (D) 35 year

Ans. (C)

Sol. Age of son = 7 years
 Age of Father = $3 \times 7 + 8 = 21 + 8 = 29$ years
 Age of Mother = $29 + 3 = 32$ years

99. There are 3 red 5 yellow and 4 green balls in a box, If 3 balls are randomly taken from the box. Then what is the probability of taken balls?

- (A) 120 (B) 220 (C) 320 (D) 420

Ans. N/A

Sol. No option matches

100. If 16 persons shake hands in a party then what will be the total number of shaking hands be combined?

- (A) 120 (B) 256 (C) 110 (D) 100

Ans. (A)

Sol. Consider polygon of 16 sides.

Number of handshakes = number of sides + number of diagonals

Number of diagonals of any polygon given by $\frac{n(n-3)}{2}$

$$\text{Number of handshakes} = 16 + \frac{16(16-3)}{2} = 16 + 8 \times 13 = 120.$$