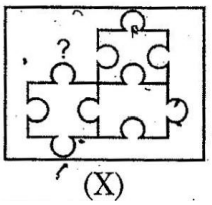
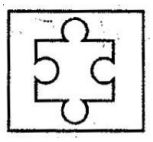
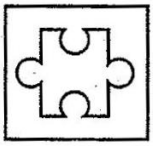
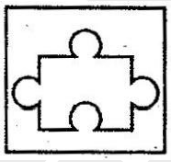
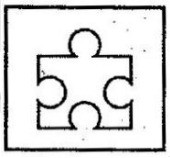
NATIONAL TALENT SEARCH EXAMINATION (NTSE-2019) STAGE -1
STATE : HARYANA PAPER : MAT

Date: 04-11-18

Max. Marks: 100 **SOLUTIONS** **Time allowed: 120 mins**

1. In the question below select a figure from amongst the Four alternatives, which when placed in the (?) of figure_(x) would complete the pattern. identify the figure that completes the'pattern.

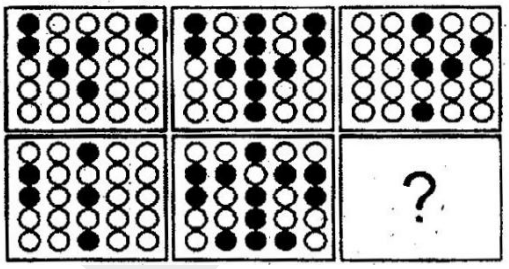


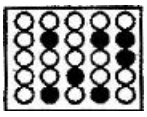
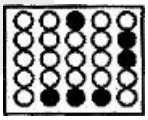
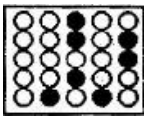
(1)  (2)  (3)  (4) 

Ans. (2)

Sol. By observation we get (2) option. Which will fit in puzzle.

2. Which option replaces the question mark (?) in the figure given below ?



(1)  (2)  (3)  (4) 

Ans. (1)

Sol. In the first row 1st and 3rd figure has 6 and 5 coloured dots respectively middle figure has 6 + 5 = 11 coloured dots by merging 1st and 3rd figure. Similarly in 2nd now we will get.

3. The following questions are based on letter series in which some letters are missing. The missing letters are given in a proper sequence as one of the alternatives among the given four alternatives under the question -

b_abbc_bbca_bcabb_ab

(1) acaa (2) acba (3) cabc (4) cacc

Ans. ***(3)***

Sol. b_abbc_bbca_bcabb_ab

If we put (C) option is given series, we get a series of bcab, bcab & so on .

4. At what time between 7 and 8 O'clock will the-hands of . a clock be in. the same straight line but, not together ?

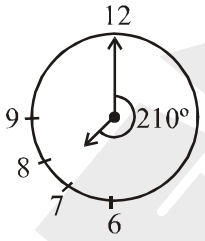
(1) 5 min. Past 7 (2) $5\frac{2}{11}$ min. Past 7 (3) $5\frac{3}{11}$ min. Past 7 (4) $5\frac{5}{11}$ min. Past 7

Ans. ***(4)***

Sol. Hour hand Minute Hand

1 hr = 30°

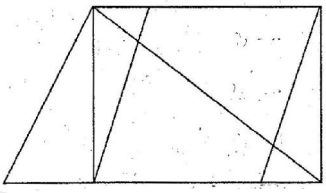
7 hrs = 30 x 7 = 210°



Now minute hands needs to travel 210-180 = 30° more so that both are opposite but not in straight line. We know the relative speed of both hands is $\Rightarrow 11/2°\text{min}$

Sol. using $T=\frac{D}{5} \Rightarrow T=\frac{30}{11/2} \Rightarrow \frac{60}{11}=5\frac{5}{11}$ mins past 7

5. How many quadrilaterals are there in the given figure ?



(1)10 (2)11 (3) 12 (4) 13

Ans. ***(4)***

Sol. Se let us, first name all the vertices.

Quadrilaterals L = 4 sided figure.

$\rightarrow$ABIG $\rightarrow$ACDI $\rightarrow$ BCDH

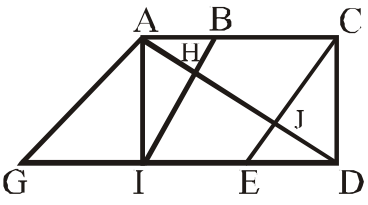
$\rightarrow$AHIG $\rightarrow$ACDG

$\rightarrow$BCEI $\rightarrow$AIEJ

$\rightarrow$BCIH $\rightarrow$ACEI

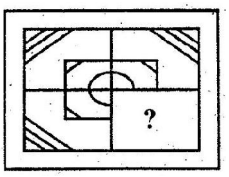
$\rightarrow$JHIE $\rightarrow$ACEG

$\rightarrow$AJEG $\rightarrow$BCDI

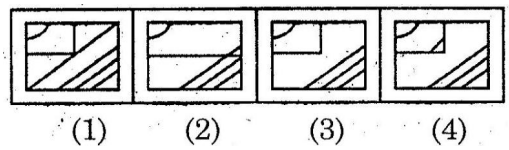


6. Select a figure from the given four alternatives, which placed in the (?)

Problems Figures :

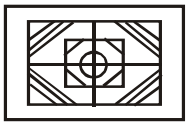


Answer figure :



Ans. ***(4)***

Sol.. If we complete the pattern of the figure we get option (4)



If B5D means B is the-father of D.
B9D means B is the sister of D.
B4D means B is the brother of D.
B3D means B is the wife of D.
Which of the following means F is the mother of K ?
(1) F3M5K (2) F5M3K (3) F9M4N3K (4) F3M5N3K

Ans. ***(1)***

Sol. *Solving by options, we take 1st option.*
(1) F3M5K

(Mother) (Father)
F ═══ M ⟶ K
Wife Husband

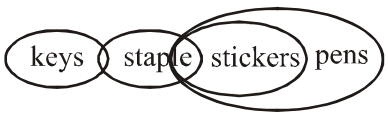
8. *Statement: . Some keys are staplers. Some staplers are stickers. All the stickers are pens.*

Conclusions;

I. Some pens are stapler II. Some stickers are keys III. No sticker is key
IV. Some staplers are eys
(1) Only (I) and (II) (2) Only (II) and (IV)
(3) Only (II) and (III) (4) Only (I) and (IV) and either (II) or (III)

Ans. ***(4)***

Sol.



For the given diagram we can conclude that I option & IV option definatly follows. Now since we are given all positive conclusions except (III), we conclude that either II or IV can also occur.

9. In the question given below, find out the alternative which will replace the question mark ?

$123 : 13^2 :: 235 : ?$

(1) 23^2 (2) 35^2 (3) 25^3 (4) 25^2

Ans. (3)

Sol. In 123 we make 2nd digit the power of 1st and 3rd digit.

Direction : (Q. No. 10 to 13)

There are eight persons namely A, B, C, D, E, F, G and H lives on eight different floors from one to eight. Ground floor is number 1 and top floor is number eight but persons do hot necessarily live in the same order. Only three persons have below the floor on which E lives. Two persons live between the floor on which E and H live. tylore than one person live between the floor on which E andA lives. C. lives immediately above G. C lives on odd numbered floor. Only one person lives between B and F. B lives one Of the above floor on which F lives. D lives on even numbered floor but not on 2nd floor.

Sol. 8 _____ B

7 _____ B

6 _____D

5 _____ F

4 _____ E

3 _____ C

2 _____G

1 _____ H

According to given statements we get this arrangement, which satisfies all the conditions.

10. Who lives on floor number eight ?

(1) B (2) C (3) A (4) D

Ans. (3)

11. How many persons live between F and A ?

(1) One (2) Three (3) Five (4) Two

Ans. (4)

12. Who lives immediate below G ?

(1) B (2) H (3) A (4) E

Ans. (2)

13. Who lives on third floor ?

(1) C (2) F (3) E (4) D

Ans. (1)

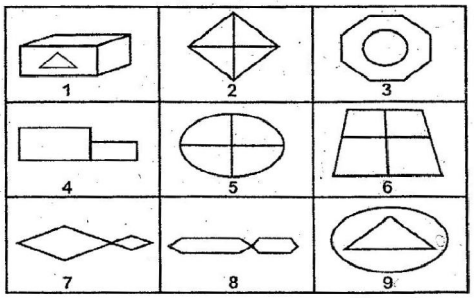
14. How many numbers from l to 50 are there each of which is not only exactly divisible by 4 but also eontain 4 as a digit in it ?

(1) 5 (2) 4 (3) 7 (4) 8

Ans. (1)

Sol. 4 , 24, 40, 44, 48

15. Group the given 9 figures into three classes using each figure only once -

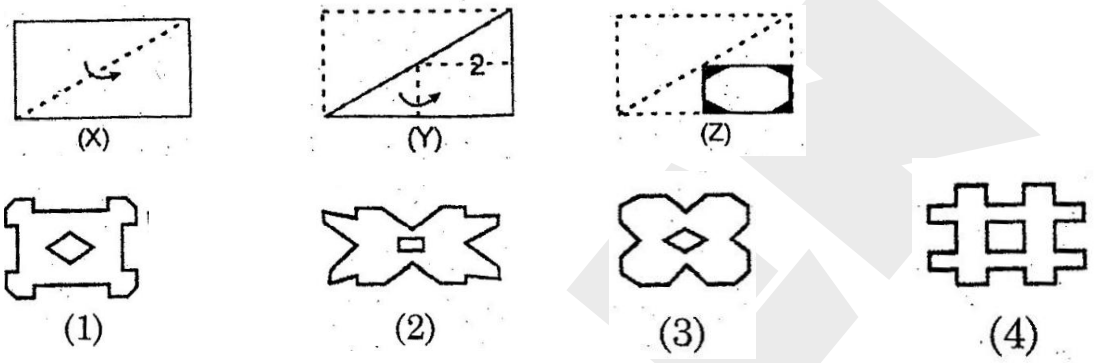


(1) 1,3,9:2,5,6; 4, 7, 8 (2) 1, 3, 9; 2, 7, 8; 4, 5, 6 (3) 1,2,4; 3,5, 7; 6, 8,9 (4) 1,3,6; 2,4,8; 5,7, 9

Ans. ***(1)***

Sol. In the given collection of figures, if we observe figure 2, 5,6,we see that each of these figures divided in four part so they form a pattern.

16. Choose a figure which would most closely resemble the unfolded form, of Figure (Z).



Ans. ***(3)***

Sol. Folding in similar pattern & cutting if we get

17. If Z = 52 and ACT = 48 then BAT will be equal to -

(1) 39 (2) 41 (3) 44 (4) 46

Ans. ***(4)***

Sol. First write the alphabatical series from A to Z then number alphabets from A - 1, B -2, C - 3, ... till Z - 26.

Now $Z = 26 \times 2 = 52$

$A = 1$

$C = 3$

$T - 20$

$24 \times 2 = 48$

[First add their corresponding humpers then double the sum]

Similary

$B - 2$

$A - 1$

$T - 20$

$23 \times 2 = 46$

18. Arrange the following words as per order in the dictionary -

(1) Tortoise (2) Torrid (3) Torso (4) Torque (5) Tortuous

Options :

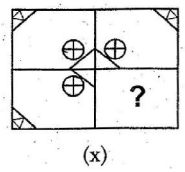
(1) 4, 2, 3, 1, 5 (2) 3, 2, 4, 1,5 (3) 2,. 3, 4, 5, 1 (4) 4, 3, 2, 1, 5

Ans. ***(1)***

Sol. By referring to alphabatical series we get option (1)

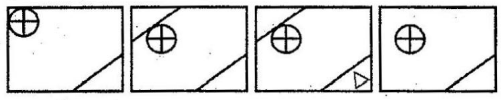
19. Select a figure from the given four alternatives which placed in the (?) which complete, the pattern -

Problem Figures:



(x)

Answer figure :



(1) (2) (3) (4)

Ans. ***(3)***

Sol. Completing the figure we get option (3)

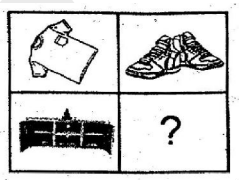
20. Pick the odd one out among the following options -

(1) Quiet – Calm. (2) Seldom - Never (3) Peace - Tranquil (4) Rapid - Slow

Ans. ***(4)***

Sol. Except option (4) all are synonyms (same meaning)

21. Choose the picture that would go in the empty box so that the two bottom pictures are related the same way as the top two are related -



(1) (2) (3) (4)

Ans. ***(2)***

Sol. The first two figures are related in a way that they both are a piece of clothing i.e. shirts & shoes.

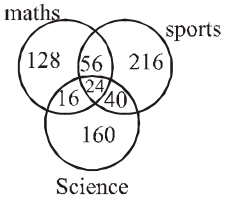
While the 3rd figure is a table is (furniture) so from options only (2) option matches the category of (furniture) i.e. sofa.

Direction : (Q. No. 22 & 23)

In a quiz competition out of 880 participants, 224 choose Mathematics 240 choose Science and 336 choose Sports, 64 choose both sports and Science, 80 choose Mathematics and Sports, 40 choose Mathematics and Science and 24 choose all the three subjects.

Sol. 22 & 23

According to statements we make the given diagram



22. The percentage of participants who did not choose any subject is :

(1) 23.59 (2) 30.25 (3) 37.46 (4) 27.27

Ans. (4)

Sol. If we add all numbers in the figure we get 640 subtract it from total 880 we get 240 which are the people who didn't took any subject.

$$\therefore \frac{240}{880}\times 100 = 27.27\%$$

23. Of those participating, the percentage who choose only one subject is :

(1) 60 (2) More than 60 (3) Less than 60 (4) More than 75

Ans. (3)

Sol. $128+216+160 \Rightarrow \frac{504}{880}\times 100 = 57.27\%$

24. A clock is set right at 5 A.M. The clock loses 16 minutes in 24 hours. What will be the exact time when the clock indicates 10 P.M. on fourth day ?

(1) 11P.M. (2) 12 P.M. (3) 1P.M. (4) 2 PM.

Ans. (1)

Sol. Time from 5 am to 10 pm = 89 hrs.

(1st day) (4th day)

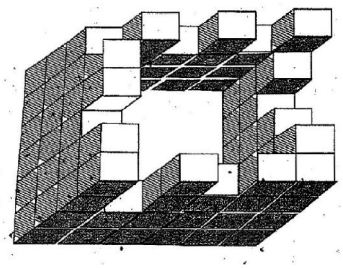
Day 1 = 19 hrs, Day 2 = 24 hrs, Day 3 = 24 hrs, Day 4 = 22 hrs.

If clock loses 16 min for 24 hrs, then it will loose for 89 hrs $\Rightarrow 89\times\frac{2}{3}\approx 59.33$

$\therefore$ approx = 60 min.

That is 11 pm.

25. Count the number of cubes in following figure -

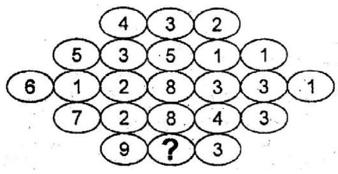


(1) 68 (2) 69 (3) 70 (4) 71

Ans. ***(2)***

Sol. By counting cubes (also count hidden cubes)

26. By using your numerical and logical eliioning skills please try to find out which number is missing in the question below. The numbers around will give you the clues you need to solve the puzzle :



(1) 9 (2) 4 (3) 5 (4) 6

Ans. ***(4)***

Sol. 1st row $\Rightarrow 4+2=\frac{6}{2}=3$ (adding corner digits & dividing by 2 gives us middle digit)

2nd row $\Rightarrow \frac{5+3+1+1}{2}=5$

Similarly 5th row $\Rightarrow \frac{9+3}{2}=\frac{12}{2}=6$

27. Choose the, alternative which is closely resembles the mirror image of the given combination.
QUALITY '

(1)  (2)  (3)  (4) 

Ans. ***(3)***

Sol. In mirror image cateral inuersion happens i.e. left becomes right & right becomes left.

28. Arrange the words given below in a meaningful sequence.

1. Probation 2. Interview 3. Selection 4. Appointment
5. Advertisement 6. Application

(1) 5, 6, 3, 2, 4, 1 (2) 5, 6, 4, 2, 3, 1 (3) 5, 6, 2, 3,4,1 (4) 6, 5, 4, 2, 3, 1

Ans. ***(3)***

Sol. It is the standard procedure, that first we see advertisement of job, then apply for it, the if we pass in interview, we get selected, get appointed for the job & then we are given probation for the job.

29. In the question below, two words are given. These words are related to each other in some way.You are required to find put the relationship between the firsts 2 words and choose the word from the given alternative, which bears the same relationship to the third word.

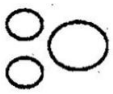
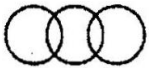
Malaria : Disease : : Spear : ?

(1) Wound (2) Sword (3) Weapon (4) War

Ans. ***(3)***

Sol. Malaria is a type of a disease.
Similarly Spear is a type of a weapon.

30. Below you are served with four different type of Venn diagrams that inficate a definite relationship between Tennis Rugby and Soccer. You need to find out the diagram which is the most relevant

(1)  (2)  (3)  (4) 

Ans. (2)

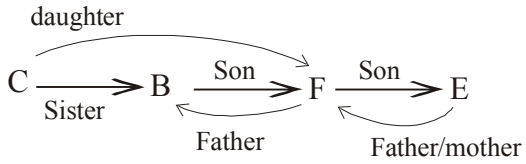
Sol. Tennis, rughy & soccer are all different sports, which is best represented by option (2).

31 If M%N means M is the son of N. M@N meang M is the sister of N. M$N means M is the father of N. Than which of the following shows the relation that C is granddaughter of E ?

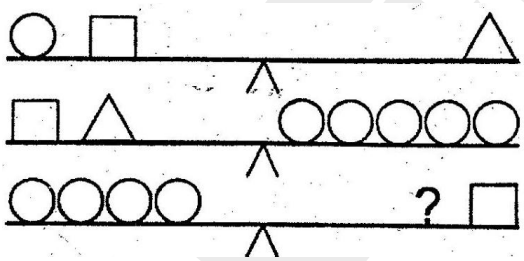
(1) C % B $ F $ E (2) B $ F $ E % C (3) C @ B % F % E (4) E % B $ F $ C

Ans. (3)

Sol.



32. Figure below represents a balance, which symbol replaces (?)



(1)  (2)  (3)  (4) 

Ans. (4)

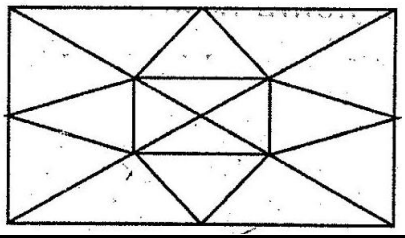
Sol. Given numbering to ◯ = 1

□ = 2

△ = 3

Using these we have to balance LHS & RHS

33. Find the number of triangles in the below figure ?



(1) 20 (2) 22 (3) 16 (4) 28

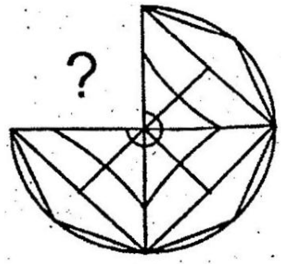
Ans. ***(4)***

Sol. First we count all the small triangles in the given figure. i.e (12)

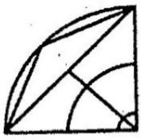
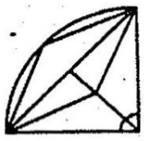
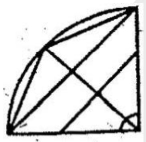
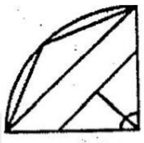
Then we count no. of triangle in each of 2 quadrilaterals i.e. triangles formed by joning diagnols i.e. (4 x 2) x 2 = 16

12 + 16 = 28

34. Choose the correct-option which completes the figure (x)



(x)

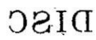
(1)  (2)  (3)  (4) 

Ans. ***(3)***

Sol. Comple the 1st quadrant of the figure by observation.

35. Choose the alternative which closely resembles the water image of tha given mbmation.

DISC

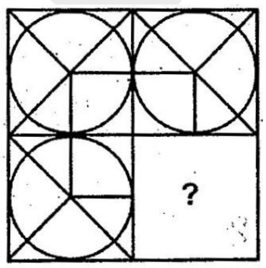
(1) CSID (2)  (3)  (4) DISC

Ans. ***(3)***

Sol. In water image top becomes bottom & vice a- versa.

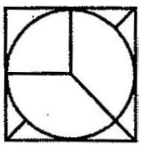
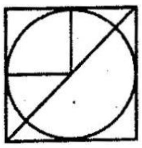
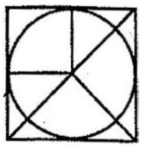
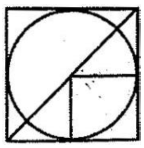
36. Select a figure from the given four alternatives, which placed in the (?)

Problem Figure :



(x)

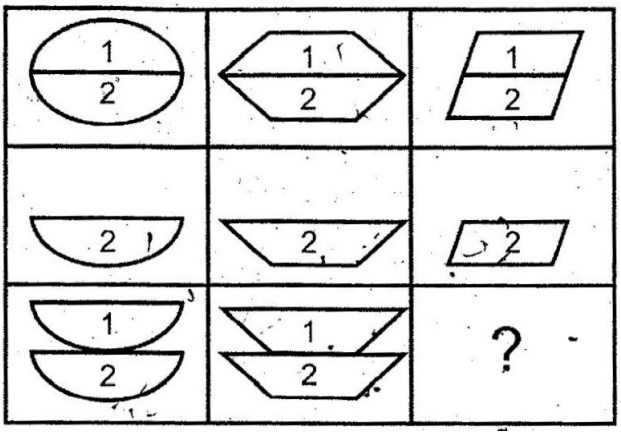
Answer Figures:

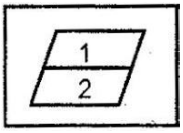
(1)  (2)  (3)  (4) 

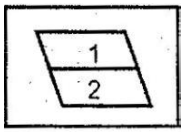
Ans. ***(3)***

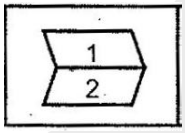
Sol. By completing the quadrant we get

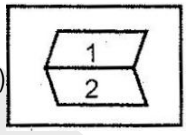
37. Select a suitable figure from the four alternatives that would complete the figure matrix -



(1) 

(2) 

(3) 

(4) 

Ans. ***(3)***

Sol. If we just observe figure 1st & 3rd in column 1 & column 2, we notice that the 1st figure is always inverted and its mirror image is placed on 2nd figure. So by that logic we get option (3).

38. Ten years ago, the age of mother was three times the age of her son. After ten years, mother's age will be twice that of his son. Find the ratio of their present ages -

(1) 11 :7 (2) 9 : 5 (3) 7 : 4 (4) 7 : 3

Ans. ***(4)***

Sol. 10 years ago

Mother	Son
3x	x
	Present age
Mother = 3x + 10	Son = x + 10

After 10 years

$3x + 20 = 2(x + 20)$

$3x + 20 = 2x + 40$

$x = 20$

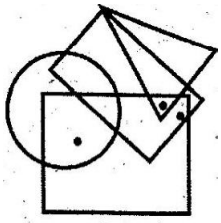
$\therefore$ Present age of mother $\Rightarrow$ 3x + 10

Son = x + 10 $\Rightarrow$ 30

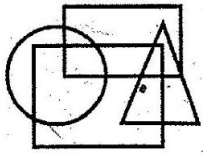
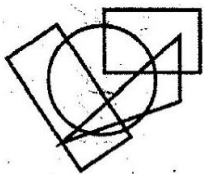
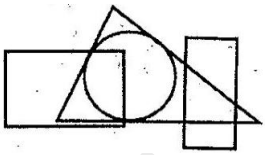
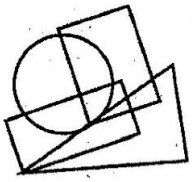
Ratio : 70 : 30

$\Rightarrow$ 7 : 3

39. The given figure (x). has dots that fulfil same conditions. Find out a figure from the alternatives where if dots are placed they will fulfil the same conditions :



(x)

(1)  (2)  (3)  (4) 

Ans. ***(1,4)***

Sol. In figure (X) 1st dot is common between triangle & rectange, 2nd dot is common between rectangule & square, 2nd dot is common between rectange & square, 3rd dot is common between circle & square.

The answer figure which satisfies this condition will be option 4.

40. In a school 80 students have registered for a singles carrom tournament. Each match eliminates one player. How many matches are to be organised to determine the champion ?

(1) 40 (2) 41 (3) 79 (4) 80

Ans. ***(3)***

Sol. 1st 40 matches = 40 selections next 39 matches will give as the winner

41. A monkey climbs 10 metres at the beginning of each hour and rest for a while when he slips back 5 metres before he again starts climbing in the beginning next hour. If he starts climbing at 8 a. m. at what time will he first touch the flag at 50 meters the group ?

(1) 4 p.m. (2) 5 p.m. (3) 6 p.m. (4) 7 p.m.

Ans. ***(1)***

Sol. 8 am – 9am = 10 m

9 am – 10am = 15 m

10 am – 11am = 20 m

11 am – 12 = 25 m

12 – 1pm = 30 m

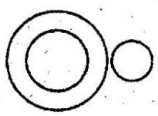
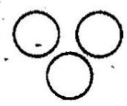
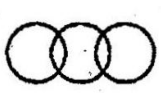
1pm – 2pm = 35 m

2 pm – 3pm = 40 m

3 pm – 4pm = 45 m

4 pm – 5pm = 50 m

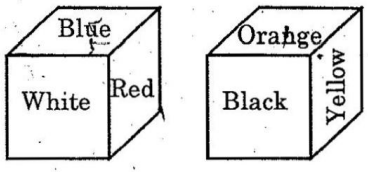
42. Which of the following Venn diagrams indicates the best relation between Travellers. Train and Bus ?

(1)  (2)  (3)  (4) 

Ans. ***(3)***

Sol. In 3rd option the middle circle represents travelers, circles on either side represent train & bus.

43. Six sides of a cube are coloured in the following manner :



Blue and Orange are opposite and Red is on the top which colour will be at the bottom ?

(1) Black (2) White (3) Orange (4) Yellow

Ans. ***(1)***

Sol. By observation

44. The numbers have been arranged under some rule. Based on that rule, which number will come in place of the question mark ?

4, 5,8,17, 44, ?

(1) 102 (2) 104 (3) 125 (4) 110

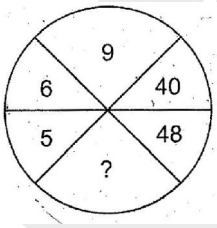
Ans. ***(3)***

Sol. 4, 5, 8, 17, 44 _____ ?

Difference of series $\Rightarrow$ 1, 3, 9, 27

We see the differences are multiplied by 3, i.e. 27 x 3 = 81 & 81 + 44 = 125

45. ***Direction :*** In the following question insert the missing number in place of question mark from the given alternatives



(1) 54 (2) 70 (3) 72 (4) 80

Ans. ***(3)***

Sol. The opposite numbers are getting multipled by 8

i.e. 6 x 8 = 48

5 x 8 = 40

i.e. 9 x 8 = 72

46. If 'x' stands for 'addition', '<' stands for 'subtraction',,'+' stands for 'division', '>' stands for 'multiplication' '_' stands for 'equal to'/', stands for 'greater than' and '=' stands for 'less than', state which of the following is true ?

(1) $3 \times 2 < 4 / 16 > 2 + 4$ (2) $5 > 2 + 2 = 10 < 4 \times 8$

(3) $3 \times 4 > 2 - 9 + 3 < 3$ (4) $5 \times 3 < 7 / 8 + 4 \times 1$

Ans. ***(2)***

Sol. If we take 2nd option

5 > 2 + 2 = 10 < 4 x 8

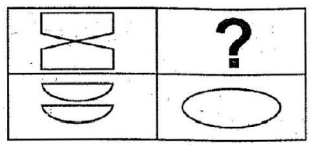
ATQ

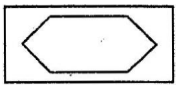
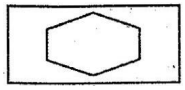
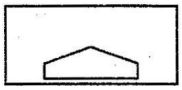
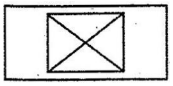
5 x 2 ÷ 2 < 10 – 4 + 8

5 x 1 < 18 – 4

5 < 14

47. Select a suitable figure from the-four alternatives that would complete the figure matrix.



(1)  (2)  (3)  (4) 

Ans. ***(3)***

Sol. By observation we get 3rd option as the answer

48. What number will come next in the given series ?

36, 34,30, 28, 24, ?

(1) 20 (2) 22 (3) 23 (4) 26

Ans. ***(2)***

Sol. 6, 34, 30, 28, 24 ?

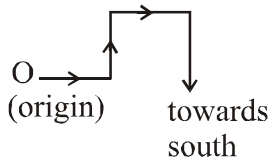
Difference : 2, 4, 2, 4, 2, alternate.

49. Seema started early in the morning on the road towards the Sun. After, some time she turned to her left. Again after some time she turned to her right. After moving some distance she again turned to her right and began to move. At this time, in what direction was she moving ?

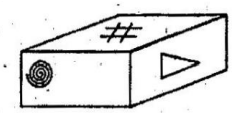
(1) South (2) North-West (3) North-East (4) East

Ans. ***(1)***

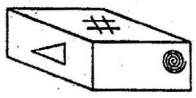
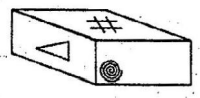
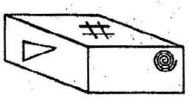
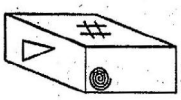
Sol. ATQ



50. Which of the following is the mirror image of the figure (x) given ?



(x)

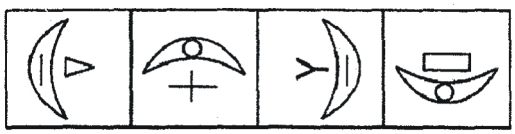
(1)  (2)  (3)  (4) 

Ans. ***(1)***

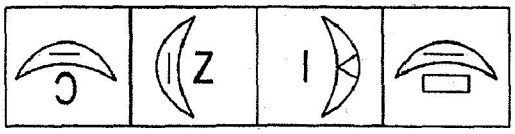
Sol. Mirror Image $\rightarrow$ Top bottom $\rightarrow$ Bottom $\rightarrow$ top

Direction : (Q.no 51 to 52) : Which one of the answer figure would occupy the position in the problem figure, if th change continue in same order.

51. ***Question Figures :***



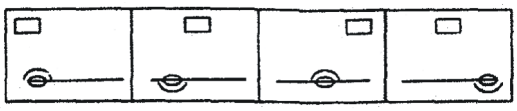
Answer Figures :



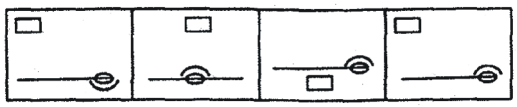
(1) (2) (3) (4)

Ans. (2)

52. ***Question Figures :***



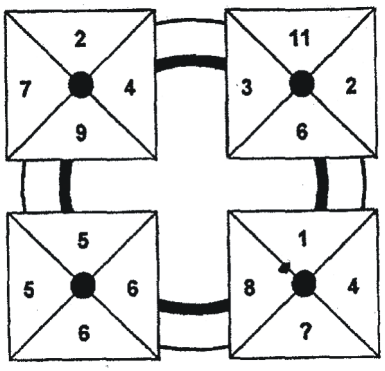
Answer Figures :



(1) (2) (3) (4)

Ans. (4)

53. Which number replaces the question mark ?



(1) 9 (2) 11 (3) 12 (4) 13

Ans. (1)

Sol.

In first square	7 + 2 + 9 + 4 = 22
in second square	3 + 11 + 6 + 2 = 22
third square	5 + 5 + 6 + 6 = 22
fourth square	8 + 1 + 4 + 9 = 22

54. There are two statements given below as premises , which support the conclusion suggested in the answer options . You may select the conclusion that makes the whole argument valid.

Statements :

I. No film actors are cricketers.

II. Some cricketers are poets .

There fore :

(1) Some poets are film actors.

(2) Some poets are not film actors.

(3) All poets are film actors.

(4) All film actrors are poets.

Ans. (2)

55. On what dates of April, 2001 did Wednesday fall?

(1) 1^{st} 8^{th} 15^{th} 22^{nd} 29^{th}

(2) 3^{rd} 10^{th} 17^{th} 24^{th}

(3) 2^{nd} 9^{th} 16^{th} 23^{rd} 30^{th}

(4) 4^{th} 11^{th} 18^{th} 25^{th}

Ans. (4)

Sol. Total days $(31 + 28 + 31 + 1) = \frac{91}{7} = 0$ Odd days

1 April 2001 $\longrightarrow$ sunday

4^{th} April $\longrightarrow$ wednessday

11^{th} April $\longrightarrow$ wednessday

18^{th} $\longrightarrow$ wednessday

25^{th} $\longrightarrow$ wednessday

56. The reflex angle between the hands of a clock at 10:25 is-

(1) 180^0 (2) $192\frac{1}{2}^0$ (3) 195^0 (4) $197\frac{1}{2}^0$

Ans. (4)

Sol. 10 : 25

$$= \left|30 \times 10 - \frac{11}{2} \times 25\right| = \left|\frac{600 - 275}{2}\right| = 162.5^\circ$$

Reflex = 360 – 162.5 = 197 .5°

57. Choose the pair that best represents a similar relationship to the expressed in the original pair or words-

MONK : DEVOTION

(1) Maniac : Pacifism

(2) Explorer : Contentment

(3) Visionary : Complacency

(4) Rover : Wanderlust

Ans. (4)

Sol.

Monk : Devotion

characteristic of monk

Rover : Wanderlust

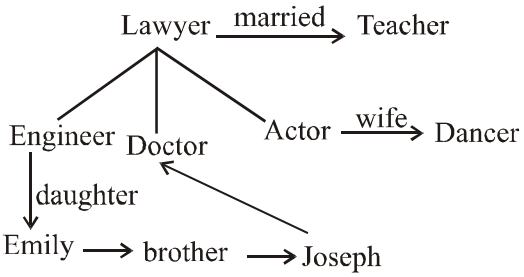
characteristic of Rover

58. In a family of eight people , lawyer is married to a teacher and has three sons, one engineer, one doctor and one actor. The actor's wife is a dancer and aunt of Emily. Emily, the daughter of engineer learns martial arts with her brother Joseph. How is doctor related to Joseph ?

(1) Son (2) Brother (3) Nephew (4) Uncle

Ans. (4)

Sol.



Doctor is uncle of Joseph

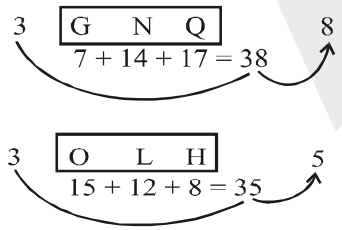
59. Which number replace the question mark in the figure given below?

3	GNQ	8
3	RBS	9
4	TUA	2
2	FPC	5
3	OLH	?

(1) 3 (2) 5 (3) 8 (4) 9

Ans. (2)

Sol.



60. If 'nso ptr kli chn' stands for 'sharma get marriage gift', 'ptr Inm wop chm' stands for 'wife gives marriage gift', 'tti wop nhi' stands for 'he gives nothing 'what would means 'gives' ?

(1) chn (2) nhi (3) ptr (4) wop

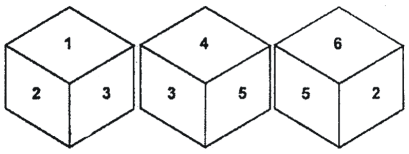
Ans. (4)

Sol. plr Inm Wop chm → Wife gives marriage gift

tti Wop nhi → he gives nothing

Wop and gives are common in both statements.

61. A dice with six faces in marked with six numbers 1, 2, 3, 4, 5 and 6 respectively. This dice is rolled three times and thre positions are shown as-

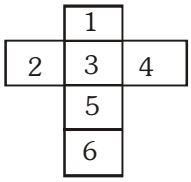


Find the number opposite to 1 -

(1) 2 (2) 6 (3) 5 (4) 4

Ans. (3)

Sol. opposite to 1 is 5



62. In the question below is given two or more statements followed by two conclussions numbered I and II. You have to take the given statements to be true even if they seem to be at variance from commnly known facts. Read all the conclusion and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts -

Statements : No giraffe is a leopard

All leopards are kangaroos

All kangaroos are wolfs .

Conclusions : (I) All kangaroos can never be giraffes .

(II) All giraffes are definitely wolfs

Give Answer

(1) If only conclusion follow.

(2) If only conclusion II follows.

(3) If either conlusion 'I or conclusion II follows.

(4) If, both conclusion, I ''and II follows.

Ans (1)

Sol. No Giraffe is leapord.

63. Direction : Study the following information and answer the question given below it.

There is a group of five persons

K, G, H, R and J.

(i) K, G and H are intelligent. (ii) K, R and J hard working. (iii) R, H and J are honest.

(iv) K, G and J are ambitious.

Which of the following person is neither hard-working nor ambitious ?

(1) K (2) G (3) H (4) R

Ans (3)

Direction : (Q.no 64 & 65) Choose the correct alternative that will continue the same pattern and replace the question mark in the given series :

64. 0, 2, 3, 5, 8, 10, 15, 17, 24, 26, ?

(1) 28 (2) 30 (3) 32 (4) 35

Ans. (4)

Sol. 0, 2, 3, 5, 8, 10, 15, 17, 24, 26 ?

$$\underset{+3}{0}\ \underset{+5}{3}\ \underset{+7}{8}\ \underset{+9}{15}\ \underset{+11}{24},\ 35$$

$$\underset{+3}{2}\ \underset{+5}{5}\ \underset{+7}{10}\ 17\ 26$$

65. 2, 2, 5, 13, 28, ?

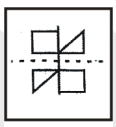
(1) 49 (2) 50 (3) 51 (4) 52

Ans. (4)

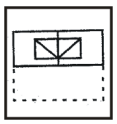
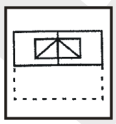
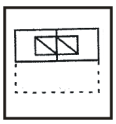
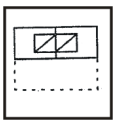
Sol. $\underset{0}{2}\ \underset{3}{2}\ \underset{8}{5}\ \underset{15}{13}\ \underset{24}{28}\ \nearrow 52$ (28+24)

$(1^2-1)\ (2^2-1)\ (3^2-1)\ (4^2-1)\ (5^2-1)$

66. Find out from amongst the four alternatives as to how the pattern would appear when the transparent sheet is folded at the dotted line.

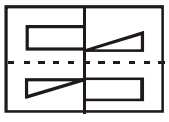


(X)

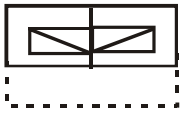
(1)  (2)  (3)  (4) 

Ans. (1)

Sol.



when folded



67. If the position of the first and the sixth letters of the word 'UNIFORMITY' are interchanged, similarly the position of 2nd with 7th letter 3rd with 8th letter, 4th with 9th and 5th with 10th letter are interchanged . Which letter will be 4th from the right end after arrangement ?

(1) I (2) U (3) M (4) N

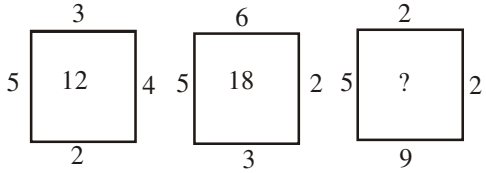
Ans. (4)

Sol. 

RMITYUNIFO

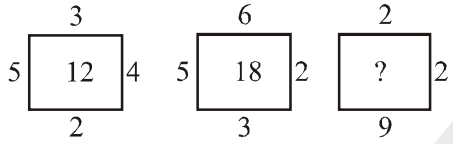
Right $\longrightarrow$ 4 $\longrightarrow$ N.

Direction : (Q.no 68 & 69) In the following questions which number will replaces question mark ?

68. 

(1) 15 (2) 18 (3) 17 (4) 16

Ans. (2)

Sol. 

multiply all the digits outside the box and divided by 10, we get the result.

$$\frac{5\times2\times4\times2}{10}, \frac{5\times6\times3\times2}{10}, \frac{5\times2\times2\times9}{10}$$

69. 6, 18, 15

3 2 5

4 3 ?

8 27 9

(1) 2 (2) 11 (3) 3 (4) 6

Ans. (3)

Sol.

6	18	15	$\rightarrow$	R_1
3	2	5	$\rightarrow$	R_2
4	3	?	$\rightarrow$	R_3
8	27	9	$\rightarrow$	R_4

Multiply $\frac{R_3 \times R_1}{R_2} = R_4$

70. A word given in capital letters is followed by four answer words. Out of these only one cannot be formed by using the given words.

Find out this word ?

NECESSARY

(1) NICE (2) ESSAY (3) EASY (4) RACE

Ans. ***(1)***

Sol. N I C E

I is not present in word NECESSARY

71. In an examination, a student scores 4 marks br every correct answer and loses 1 mark forevery wrong answer. If he attempts all 75 question and secures 125 marks, the number of- questioh he attempted correçtly, is -

(1) 35 (2) 41 (3) 42 (4)46

Ans. ***(2)***

Sol. Let x be the number of question attempted correctly.

Total question = 75

Then,

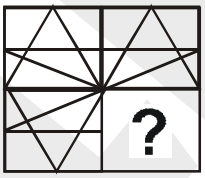
According to question, $x \times 4 + 1 \times (75 - x) = 125$

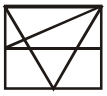
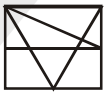
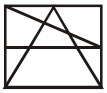
$4x - 75 + x = 125$

$5x = 200$

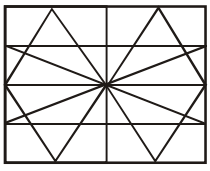
$x = 40$

72. Identify the figure that completes the pattern(x)



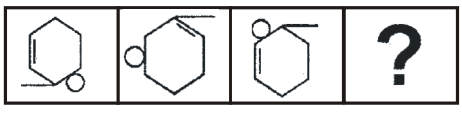
(1)  (2)  (3)  (4) 

Ans. ***(3)***

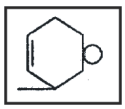
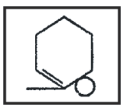
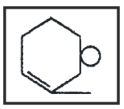
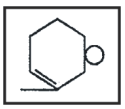
Sol. 

73. The first unit contains two figures and the second unit contains one figure and a question mark. Find out which one of the answer figure should be placed at question mark ?

Problem Figures:

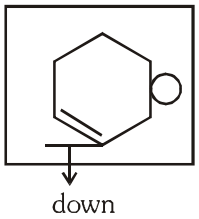


Answer Figures:

(1)  (2)  (3)  (4) 

Ans. ***(4)***

Sol.



74. First bunch of bananas has(1/4) again as many bananas as second bunch. if the second bunch has three bananas less than the first bunch, then the number of bananas in the first bunch are

(1) 9 (2) 10 (3) 12 (4) 15

Ans. ***(4)***

Sol. Let x be the number of banana is second bunch.

Then, Banana in first bunch $= x + \frac{x}{4} = \frac{5x}{4}$

According to question

$$\frac{5x}{4} - x = 3$$

$$x = 12$$

Number of banana is first bunch = 12 + 3 = 15

75. Look at this series : 664, 332, 340, 170, ? , 89, ... What number should be placed act (?)

(1) 85 (2) 97 (3) 109 (4)178

Ans. ***(4)***

Sol. $664 \underset{2x}{\longrightarrow} 332, \quad 340 \underset{\times 2x}{\longrightarrow} 170, \quad 1 \underset{\times 2x}{\longrightarrow} 89$

$89 \times 2 = 178$

76. In the given table numbers are written according to some pattern and one number is missing. Find the missing number that replaces the question mark.

(1) 16 (2) 40 (3) 62 (4) 83

Ans. ***(4)***

Sol.

12	47	21
10	52	4
64	?	24

$\frac{12}{3} = 4, \frac{21}{3} = 7 \longrightarrow 47$

$\boxed{\frac{10}{2}=5,\frac{4}{2}=2} \longrightarrow 52$

$\boxed{\frac{64}{8}=8,\frac{24}{8}=3} \longrightarrow 83$

77. In the following series of numbers, find out how many times 1, 3 and 7 have appeared together, 7, being in the middle and 1 and .3 on either sideof 7.

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

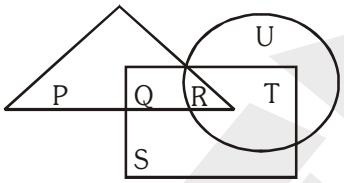
(1) 3 (2) 4 (3) 5 (4) More than 5

Ans. ***(1)***

Sol. No. should be 1 7 3

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

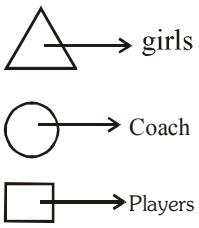
78. In the following figure triangle. represents 'girls', Rectangle 'players' and circle 'coach'. Which part of the diagram represents girls who are player but not coach?



(1) P (2) Q (3) R (4) S

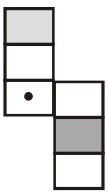
Ans. ***(2)***

Sol.



Q is only that lie betwee triangle and square.

79. The figure (x) is folded to form a box. Choose from the alternative (i), (ii), (iii) and (iv) the boes that is similar to the box formed.



(i) (ii) (iii) (iv)

(1) (ii) and (iii) only (2) (i) (iii) and (iv) only (3) (ii) and (iv) only (4) (i) and (iv) only

Ans. ***(2)***

80. Find the odd one out - 331, 482, 551, 263, 383, 362, 284

(1) 263 (2) 383 (3) 331 (4) 551

Ans. ***(2)***

Sol. 3 x 3 = 6 not equal to 8

multiple 1st and 3rd digit ,we get the middle one.

81. The works in the bottom row are related in the same way as the words in the top row. For each item, find the word that completes the bottom row of words -

ant	fly	bee
hamster	squirrel	?

(1) Spider (2) Mouse (3) Rodent (4) Cat

Ans. ***(2)***

Sol.

ant	fly	bee
hamster	Squirrel	Mouse

→ Insects

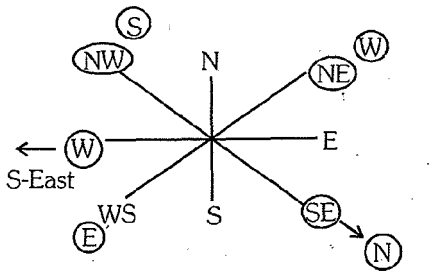
→ Rodents

82. If South – East becomes North, and North – East becomes West, then West becomes:

(1) North – East (2) South — East (3) North – West (4) South – West

Ans. ***(2)***

Sol.



83. In the question below an equation becomes incorrect due to the intercahnge of two signs. One of the four alternatives under it specifies the interchange of signs in the equation, which when made will make the equation correct.

Find the correqt alternative : 5 +6 ÷ 3– 12 × 2 = 17

(1) ÷ and × (2) + and × (3) + and ÷ (4) + and –

Ans. ***(1)***

Sol. 5 + 6 × 3 – 12 ÷2

5 + 18 – 6

23 – 6 = 17

84. In a certain code BOXER is written as AQWGQ. How VISIT is written in that code ?

(1) UKRKU (2) UKRKS (3) WKRKUP (4) WKRKS

Ans. ***(2)***

Sol.

$$\begin{array}{ccccccccc} & B & O & X & E & R & & V & I & S & I & T \\ -1 & \downarrow & +2 & -1 & +2 & -1 & , & -1 & \downarrow & \downarrow +2 & -1 & +2\downarrow & -1 \\ & A & Q & W & G & Q & & & U & K & R & K & S \end{array}$$

85. How many days are thre in x weeks and x days ?

(1) $7x^2$ (2) 8x (3) 14x (4) 7

Ans. ***(2)***

Sol. Total number of days = x x 7 + x = 7x + x = 8x

86. If diamond is called gold, gold is called silver, silver is called ruby and ruby is called emerald, wich is the cheapest jewel ?

(1) Diamond (2) Silver (3) Gold (4) Ruby

Ans. ***(4)***

Sol. Cheapest jewel $\longrightarrow$ Emerald $\longrightarrow$ Ruby

87. In a certain code, RIPPLE is written as 613382. and LIFE is written as 8192. How is PILLER written in that code?

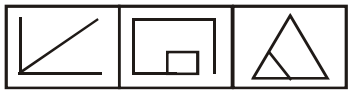
(1) 318826 (2) 318286 (3) 618826 (4) 338816

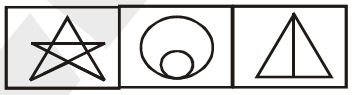
Ans. ***(1)***

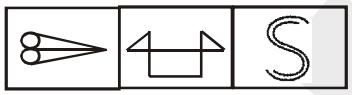
Sol.

RIPPLE		LIFE	PILLER
613382		8192	318826

88. Choose the set of figures which following the given rule. Rule : any figure can be traced by a single unbroken line without retaracting.

(1) 

(2) 

(3) 

(4) 

Ans. ***(2)***

89. The following problem of substraction find out the number which does not stand for $\begin{array}{r} CAR \\ -ARE \\ \hline 222 \end{array}$

(1) 8640 (2) 6420 (3) 7531 (4) 9753

Ans. ***(1)***

Sol. $\begin{array}{r} CAR \\ -ARE \\ \hline 222 \end{array}$ CARE 8640 $\begin{array}{r} 864 \\ 640 \\ \hline 224 \end{array}$ Which is not possible

90. Today s Monday. After 61 days it will be -

(1) Tuesday (2) Monday (3) Sunday (4) Saturday

Ans. ***(4)***

Sol. $\frac{61}{7} = 5$ days left

5 days after Monday is Saturday.

91. If A$B means A is the father of B; A#B means A is the sister of B; A*B means A is the daughter of B and A@B means A is the brother of B. Which of the following indicates that M is wife of Q ?

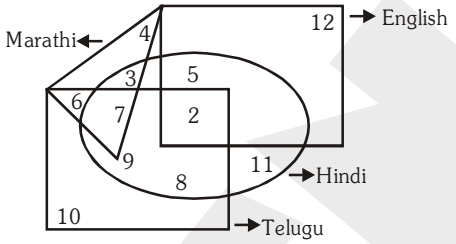
(1) Q$R#T@M (2) Q$R@T#M (3) Q$R*T#M (4) Q$R@T*M

Ans. (4)

Sol. Q is the father of R and R is brother of T and T is daughter of M

So, M and Q are husband and wife

Direction : (Q.No. 92 to 94) In the follwoing figure small square represents the persons who know English, triangle to those who Marathi, big, square to those who know Telugu and circle to those who know Hindi. In the different regions of the figures from 2 to12 are given.



92. How many persons can speak English and Hindi both languages only

(1) 5 (2) 8 (3) 7 (4) 18

Ans. (3)

93. How many persons can speak English, Hindi and Telugu?

(1) 8 (2) 2 (3) 7 (4) 10

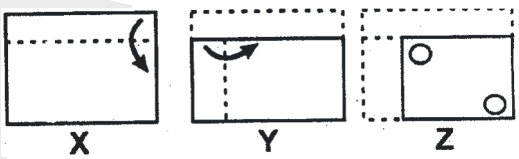
Ans. (2)

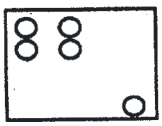
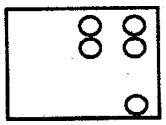
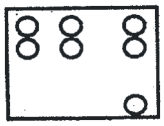
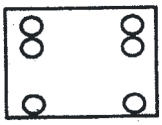
94. How many persons can speak all the languages?

(1) 1 (2) 8 (3) 2 (4) None

Ans. (4)

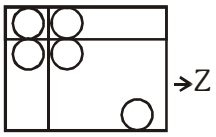
95. In this question there is a set of three fitres X, Y and Z showing a sequence of folding of a piece of paper. Figure(Z) shows the manner in which the folded paper has been cut. These three figures are followed by four answer figures from which you have to choose a figure which would most closely resemble the unfolded form of Fig. (Z)



(1)  (2)  (3)  (4) 

Ans. (1)

Sol.



96. If : 3 + 9 = 31

15 + 27 = 95

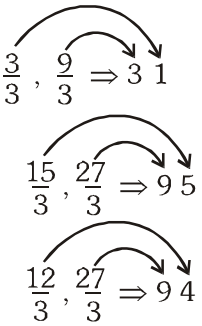
18 + 9 = 36

then, 12 + 27 = ?

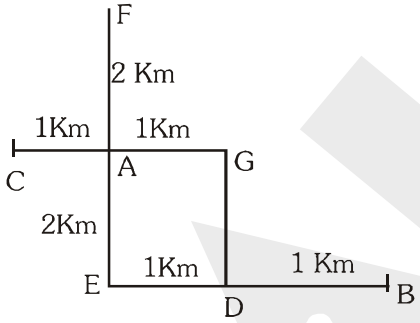
(1) 94 (2) 14 (3) 49 (4) 53

Ans. (1)

Sol.



Direction : (Q. No. 97 to 99) : Seven villages A, B, C, D, E, F and G are situated as follows : E is 2 km to the west of B. F is 2 km to the north of A. D is 2 km to the south of G. C is 1 km to the west of A. G is 2 km to the east of. C. D is xactly in the middle of B and E.



97. How far is E from F (in km)?

(1) 5 km (2) 6 km (3) 4 km (4) 4.5 km

Ans. (3)

Sol. EF = EA + AF

2 + 2 = 4 Km

98. Which two village are the farthest from one another?

(1) D and C (2) F and E (3) F and B (4) G and E

Ans. (3)

Sol. (1) Distance between villages D & C is $2\sqrt{2}$ Km.

(2) Distance between the villages F & E = 4Km .

(3) Distance villages between F & D is $2\sqrt{5}$ km .

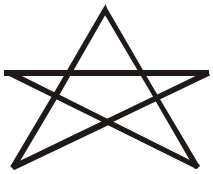
(4) Distance between the villages G & E is equal to $\sqrt{5}$ km .

99. A is in te middle bf two villages:

(1) C and F (2) B and D (3) Y and G (4) C and B

Ans. (3)

100. How many triangles are there in the following figure?



(1) 10 (2) 6 (3) 8 (4) 5

Ans. (1)

Sol.