T. W. I.

The WINNERS Institute

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Reasoning

Counting the Figure

Practice Sheet

Basic to High Level with solution

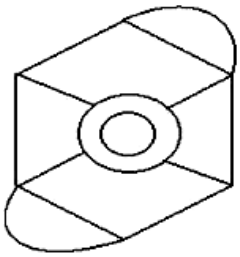
Founder - Aditya Patel Sir

SBI PO & LIC AAO
(2013- Batch) Selected

Call - 9009335533

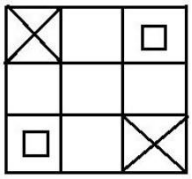
Counting The Figure - Practice Sheet

1. दी गई आकृति में कितनी सीधी रेखाएँ हैं?
How many straight lines are there in the given figure?



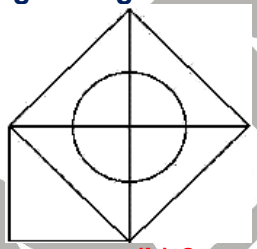
(a) 14 (b) 12
(c) 10 (d) 8

2. दी गई आकृति में कितने वर्ग हैं?
How many squares are there in the given figure?



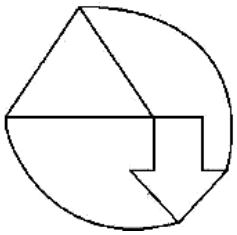
(a) 20 (b) 14
(c) 18 (d) 16

3. दी गई आकृति में कितने समकोण त्रिभुज हैं?
How many right-angled triangles are there in the given figure?



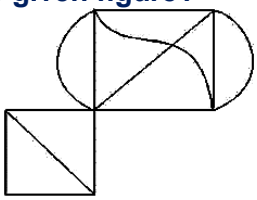
(a) 7 (b) 8
(c) 5 (d) 10

4. दी गई आकृति में कितनी सीधी रेखाएँ हैं?
How many straight lines are there in the given figure?



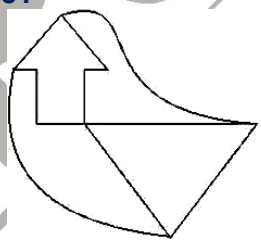
(a) 13 (b) 17
(c) 10 (d) 9

5. दी गई आकृति में कितने समकोण त्रिभुज हैं?
How many right-angled triangles are there in the given figure?



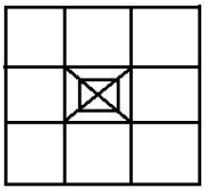
(a) 4 (b) 8
(c) 6 (d) 3

6. दी गई आकृति में कितनी सीधी रेखाएँ हैं?
How many straight lines are there in the given figure?



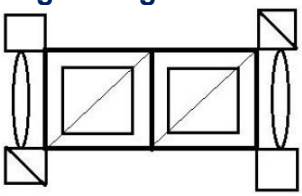
(a) 9 (b) 11
(c) 13 (d) 15

7. दी गई आकृति में कितने वर्ग हैं?
How many squares are there in the given figure?



(a) 18 (b) 15
(c) 20 (d) 22

8. दी गई आकृति में कितने वर्ग और त्रिभुज हैं?
How many squares and triangles are there in the given figure?



(a) त्रिभुज – 8, वर्ग - 8/ Triangle – 8, Square - 8 /
(b) त्रिभुज – 12, वर्ग - 8 / Triangle – 12, Square - 8

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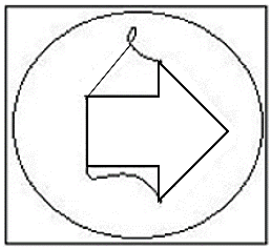
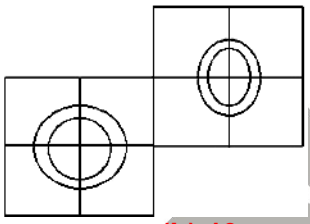
(c)) त्रिभुज –10, वर्ग - 10 / Triangle –10, Square - 10
(d) त्रिभुज – 11, वर्ग - 13 / Triangle – 11, Square - 13

9. दी गई तस्वीर में कितनी सीधी रेखाएँ हैं?
How many straight lines are there in the given picture?



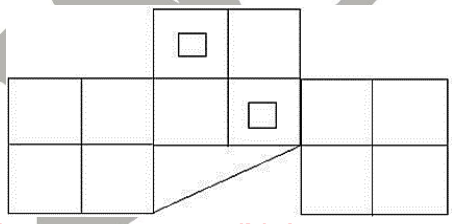
(a) 12 (b) 13
(c) 11 (d) 10

10. दी गई आकृति में कितने वर्ग हैं?
How many squares are there in the given figure?



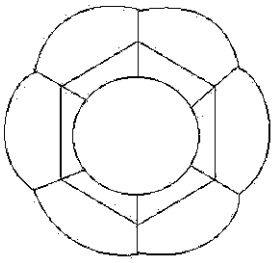
(a) 12 (b) 10
(c) 14 (d) 16

11. दी गई आकृति में कितने वर्ग हैं?
How many squares are there in the given figure?



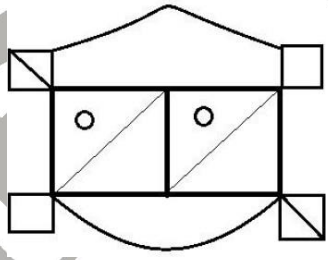
(a) 15 (b) 14
(c) 16 (d) 17

12. दी गई तस्वीर में कितनी सीधी रेखाएँ हैं?
How many straight lines are there in the given picture?



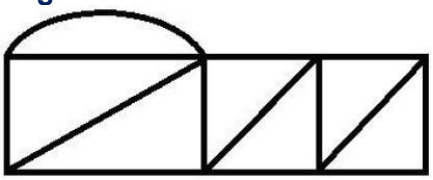
(a) 24 (b) 12
(c) 14 (d) 20

13. दी गई आकृति में कितने समकोण त्रिभुज हैं?
How many right-angled triangles are there in the given figure?



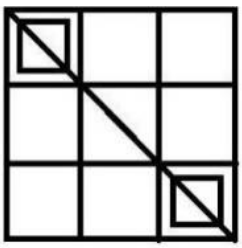
(a) 8 (b) 10
(c) 12 (d) 16

14. दी गई आकृति में कितनी सीधी रेखाएँ हैं?
How many straight lines are there in the given figure?



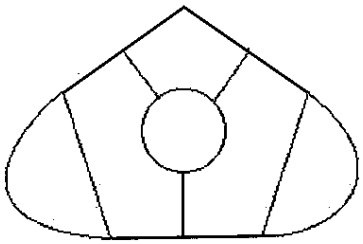
(a) 6 (b) 8
(c) 9 (d) 11

15. दी गई आकृति में कितने वर्ग हैं?
How many squares are there in the given figure?



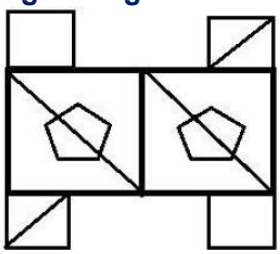
(a) 18 (b) 14
(c) 20 (d) 16

16. दी गई आकृति में कितनी सीधी रेखाएँ हैं?
How many straight lines are there in the given figure?



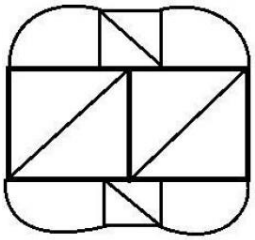
(a) 7 (b) 9
(c) 8 (d) 6

17. दी गई आकृति में कितने समकोण त्रिभुज हैं?
How many right-angled triangles are there in the given figure?



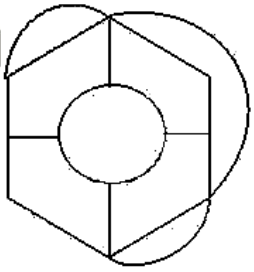
(a) 8 (b) 6
(c) 10 (d) 12

18. दी गई आकृति में कितने समकोण त्रिभुज हैं?
How many right-angled triangles are there in the given figure?



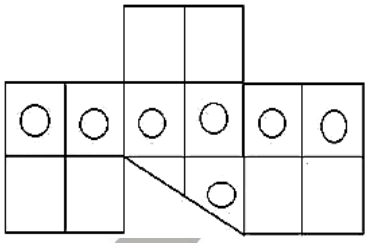
(a) 10 (b) 8
(c) 6 (d) 12

19. दी गई आकृति में कितनी सीधी रेखाएँ हैं?
How many straight lines are there in the given figure?



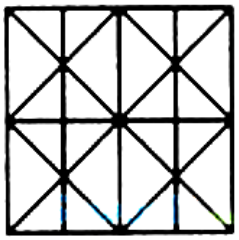
(a) 9 (b) 8
(c) 12 (d) 10

20. दी गई आकृति में कितने वर्ग हैं?
How many squares are there in the given figure?



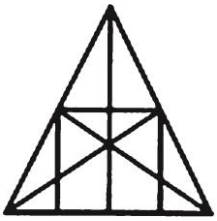
(a) 18 (b) 13
(c) 15 (d) 17

21. दी गई आकृति बनाने के लिए आवश्यक सीधी रेखाओं की न्यूनतम संख्या ज्ञात कीजिए।
Find the minimum number of straight lines required to make the given figure.



(a) 11 (b) 14
(c) 16 (d) 17

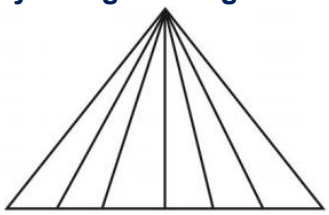
22. दी गई आकृति में सीधी रेखाओं और त्रिभुजों की संख्या कितनी है?
What is the number of straight lines and the number of triangles in the given figure?



(a) 10 सीधी रेखाएँ और 34 त्रिभुज / 10 straight lines and 34 triangles
(b) 9 सीधी रेखाएँ और 34 त्रिभुज / 9 straight lines and 34 triangles
(c) 9 सीधी रेखाएँ और 36 त्रिभुज / 9 straight lines and 36 triangles
(d) 10 सीधी रेखाएँ और 36 त्रिभुज / 10 straight lines and 36 triangles

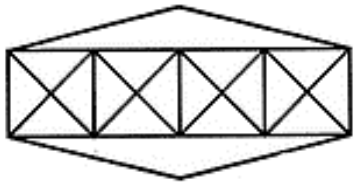
Counting The Figure - Practice Sheet

23. आकृति में कितने त्रिभुज हैं?
How many triangles in figure?



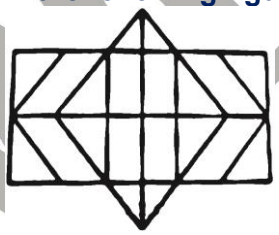
(a) 21 (b) 18
(c) 20 (d) 24

24. दी गई आकृति में त्रिभुजों और वर्गों की संख्या की गणना कीजिए।
Count the number of triangles and squares in the given figure.



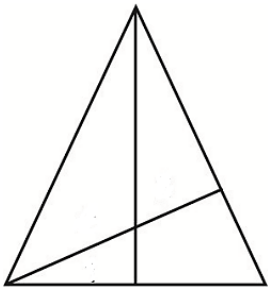
(a) 36 त्रिभुज, 7 वर्ग / 36 triangles, 7 Squares
(b) 38 त्रिभुज, 9 वर्ग / 38 triangles, 9 Squares
(c) 40 त्रिभुज, 7 वर्ग / 40 triangles, 7 Squares
(d) 42 त्रिभुज, 9 वर्ग / 42 triangles, 9 Squares

25. निम्नलिखित आकृति में आयतों और हेक्सागोन की संख्या ज्ञात करें।
Determine the number of rectangles and hexagons in the following figure.



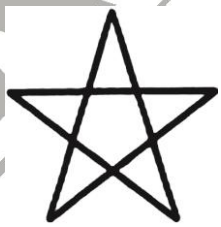
(a) 30, 5 (b) 32, 3
(c) 28, 5 (d) 30, 3

26. आकृति में कितने त्रिभुज हैं?
How many triangles in figure?



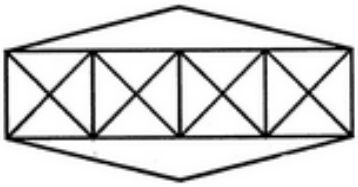
(a) 8 (b) 4
(c) 6 (d) 3

27. दी गई आकृति में त्रिभुजों की संख्या ज्ञात कीजिए?
Find the number of triangles in the given figure?



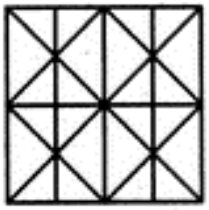
(a) 5 (b) 8
(c) 9 (d) 10

28. नीचे दी गई आकृति में सीधी रेखाओं की न्यूनतम संख्या ज्ञात कीजिए?
Find the minimum number of straight lines in the below figure?



(a) 20 (b) 19
(c) 17 (d) 15

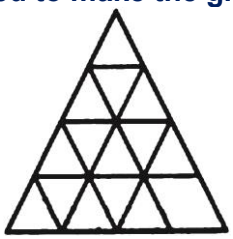
29. नीचे दी गई आकृति बनाने के लिए सीधी रेखाओं की आवश्यक न्यूनतम संख्या ज्ञात कीजिए है?
Minimum number of straight lines required to form the below figure?



(a) 18 (b) 17
(c) 14 (d) 16

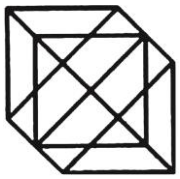
Counting The Figure - Practice Sheet

30. दी गई आकृति बनाने के लिए सीधी रेखाओं की आवश्यक न्यूनतम संख्या ज्ञात कीजिए।
Find the minimum number of straight lines required to make the given figure.



(a) 9 (b) 11
(c) 15 (d) 16

31. दी गई आकृति में त्रिभुजों की संख्या ज्ञात कीजिए?
Find the number of triangles in the given figure?

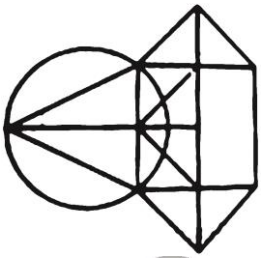


(a) 18 (b) 20
(c) 24 (d) 27

32. नीचे दि गई आकृति में रिक्त स्थान को भरने के लिए आवश्यक रंगीन पैंसिल की न्यूनतम संख्या क्या है, जिसमें दो आसन्न रिक्त स्थान एक ही रंग के नहीं हैं?
What is the minimum number of colour pencils required to fill the spaces in the below figure with no two adjacent spaces have the same colour?

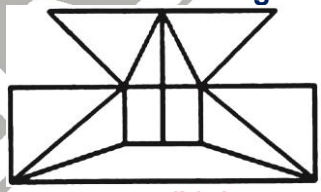
(a) 5 (b) 2
(c) 3 (d) 6

33. दी गई आकृति में त्रिभुजों की संख्या ज्ञात कीजिए?
Find the number of triangles in the given figure?



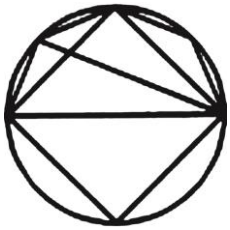
(a) 10 (b) 12
(c) 14 (d) 16

34. दी गई आकृति बनाने के लिए सीधी रेखाओं की आवश्यक न्यूनतम संख्या ज्ञात कीजिए।
Find the minimum number of straight lines required to make the given figure.



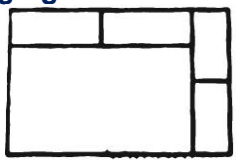
(a) 16 (b) 17
(c) 18 (d) 19

35. दी गई आकृति में त्रिभुजों की संख्या ज्ञात कीजिए।
Find the number of triangles in the given figure.



(a) 8 (b) 10
(c) 11 (d) 12

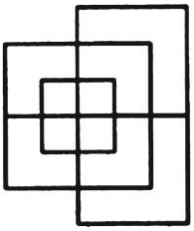
36. निम्नलिखित आकृति में आयतों की संख्या क्या है?
What is the number of rectangles in the following figure?



(a) 6 (b) 7
(c) 9 (d) 11

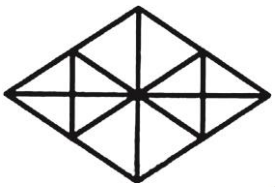
Counting The Figure - Practice Sheet

37. दी गई आकृति बनाने के लिए सीधी रेखाओं की आवश्यक न्यूनतम संख्या ज्ञात कीजिए।
Find the minimum number of straight lines required to make the given figure.



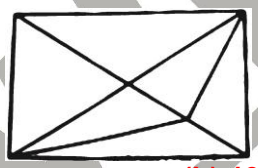
(a) 13 (b) 15
(c) 17 (d) 19

38. दी गई आकृति में त्रिभुजों की संख्या ज्ञात कीजिए?
Find the number of triangles in the given figure?



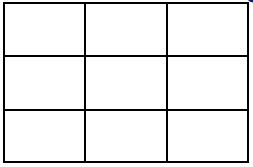
(a) 16 (b) 22
(c) 28 (d) 32

39. दी गई आकृति में त्रिभुजों की संख्या ज्ञात कीजिए?
Find the number of triangles in the given figure?



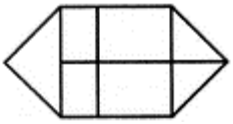
(a) 11 (b) 13
(c) 15 (d) 17

40. आयतों की संख्या ज्ञात कीजिए?
Find the number of rectangles?



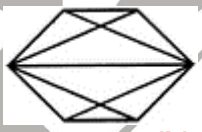
(a) 29 (b) 28
(c) 27 (d) 36

41. दी गई आकृति में कितने आयत हैं?
How many rectangles are there in the given figure?



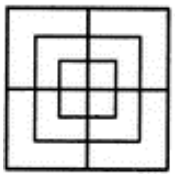
(a) 10 (b) 9
(c) 8 (d) 7

42. दी गई आकृति में चतुर्भुज की संख्या ज्ञात कीजिए।
Find the number of quadrilaterals in the given figure.



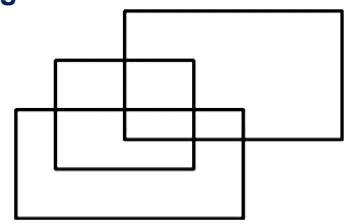
(a) 6 (b) 7
(c) 9 (d) 11

43. दी गई आकृति में वर्गों की संख्या की गणना करें।
Count the number of squares in the given figure.



(a) 8 (b) 12
(c) 15 (d) 18

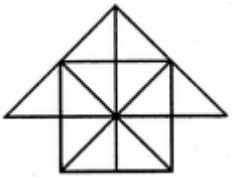
44. दी गई आकृति में कितने आयत हैं?
How many rectangles are there in the given figure?



(a) 9 (b) 10
(c) 11 (d) 12

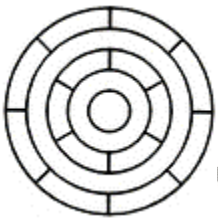
45. दी गई आकृति में त्रिभुजों और वर्गों की संख्या गिनें।
Count the number of triangles and squares in the given figure.

Counting The Figure - Practice Sheet



(a) 26 त्रिभुज, 5 वर्ग / 26 triangles, 5 squares
(b) 28 त्रिभुज, 5 वर्ग / 28 triangles, 5 squares
(c) 26 त्रिभुज, 6 वर्ग / 26 triangles, 6 squares
(d) 28 त्रिभुज, 6 वर्ग / 28 triangles, 6 squares

46. अलग-अलग रंगों की न्यूनतम संख्या को चित्रित करने के लिए उसे किस तरह की आवश्यकता होती है जैसे कि दो आसन्न क्षेत्रों में एक ही रंग नहीं है?
What is the minimum number of different colours required to paint he given figure such that no two adjacent regions have the same colour?

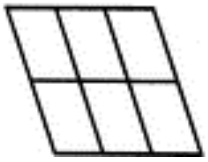


(a) 3 (b) 4
(c) 5 (d) 6

47. दी गई आकृति में त्रिभुजों और वर्गों की संख्या गिनें।
Count the number of triangles and squares in the given figure.

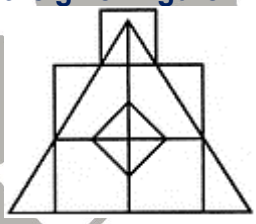
(a) 28 त्रिभुज, 3 वर्ग / 28 triangles, 3 squares
(b) 24 त्रिभुज, 5 वर्ग / 24 triangles, 5 squares
(c) 28 त्रिभुज, 5 वर्ग / 28 triangles, 5 squares
(d) 24 त्रिभुज, 3 वर्ग / 24 triangles, 3 squares

48. दी गई आकृति में समांतर चतुर्भुज की संख्या गिनें।
Count the number of parallelogram in the given figure.



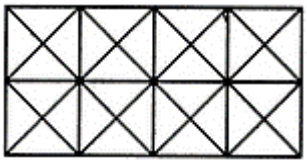
(a) 20 (b) 18
(c) 16 (d) 12

49. दी गई आकृति में त्रिभुजों और वर्गों की संख्या की गणना करें।
Count the number of triangles and squares in the given figure.



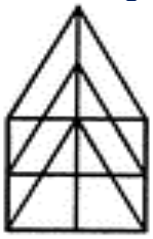
(a) 21 त्रिभुज, 7 वर्ग / 21 triangles, 7 squares
(b) 18 त्रिभुज, 8 वर्ग / 18 triangles, 8 squares
(c) 20 त्रिभुज, 8 वर्ग / 20 triangles, 8 squares
(d) 22 त्रिभुज, 7 वर्ग / 22 triangles, 7 squares

50. दी गई आकृति में वर्गों की संख्या की गणना करें।
Count the number of squares in the given figure.



(a) 11 (b) 21
(c) 24 (d) 26

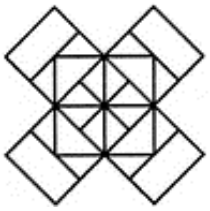
51. निम्नलिखित आकृति में कितने त्रिभुज और समांतर चतुर्भुज हैं?
How many triangles and parallelograms are there in the following figure?



(a) 21, 17 (b) 19, 13
(c) 21, 15 (d) 19, 17

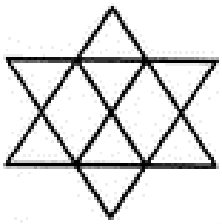
Counting The Figure - Practice Sheet

52. दी गई आकृति में वर्गों की संख्या की गणना करें।
Count the number of squares in the given figure.



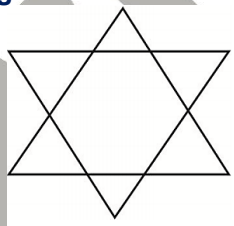
(a) 22 (b) 20
(c) 18 (d) 14

53. दी गई आकृति में समांतर चतुर्भुज की संख्या गिनें।
Count the number of parallelogram in the given figure.



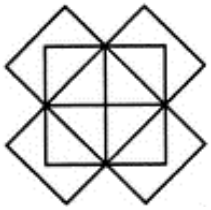
(a) 8 (b) 11
(c) 12 (d) 15

54. निम्नलिखित आकृति में कितने त्रिभुज हैं?
How many triangles is therein the following figure?



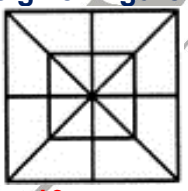
(a) 10 (b) 8
(c) 6 (d) 4

55. दी गई आकृति में आयतों की संख्या की गणना करें।
Count the number of rectangles in the given figure.



(a) 20 (b) 18
(c) 16 (d) 15

56. दी गई आकृति में त्रिभुजों और वर्गों की संख्या की गणना करें।
Count the number of triangles and squares in the given figure.

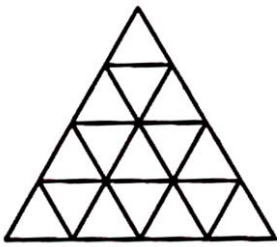


(a) 28 triangles, 10 squares
(b) 28 triangles, 8 squares
(c) 32 triangles, 10 squares
(d) 32 triangles, 8 squares

57. आकृति में कितने वर्ग?
How many square in figure?

(a) 47 (b) 45
(c) 30 (d) 39

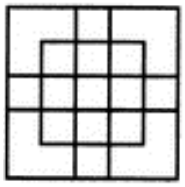
58. दिए गए पैटर्न में त्रिभुजों की संख्या ज्ञात कीजिए।
Find out the number of triangles in the given pattern.



(a) 23 (b) 26
(c) 28 (d) 27

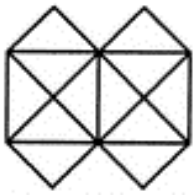
Counting The Figure - Practice Sheet

59. दी गई आकृति में वर्गों की संख्या की गणना करें।
Count the number of squares in the given figure.



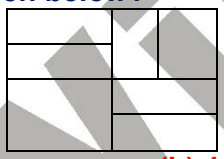
(a) 18 (b) 19
(c) 25 (d) 27

60. आकृति बनाने के लिए आवश्यक सीधी रेखाओं की न्यूनतम संख्या कितनी है?
What is the minimum number of straight lines that is needed to construct the figure?



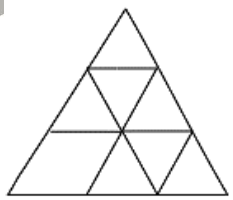
(a) 11 (b) 13
(c) 15 (d) 21

61. नीचे दी गई आकृति में कितने आयत हैं?
How many rectanlges are there in the figure given below?



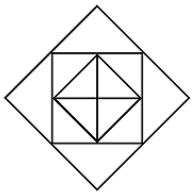
(a) 24 (b) 16
(c) 22 (d) 14

62. दी गई आकृति में कितने त्रिभुज हैं?
How many triangles are there in the given figure?



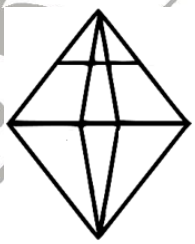
(a) 12 (b) 11
(c) 10 (d) 15

63. इस आकृति में कितने त्रिभुज हैं?
How many triangles are there in this figure?



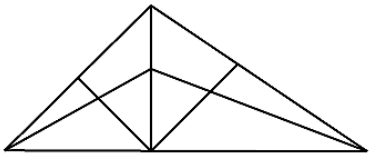
(a) 12 (b) 16
(c) 9 (d) 8

64. इस आकृति में त्रिभुजों की संख्या ज्ञात कीजिए?
Find the number of triangles in this figure?



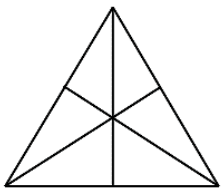
(a) 20 (b) 19
(c) 14 (d) 18

65. निम्नलिखित आकृति में कितने त्रिभुज हैं?
How many triangles are there in the following figure?



(a) 18 (b) 13
(c) 9 (d) 5

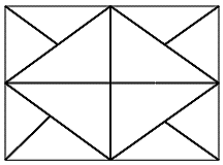
66. प्रश्न आकृति में कितने त्रिभुज हैं?
How many triangles are there in the question figure?



(a) 6 (b) 10
(c) 12 (d) 16

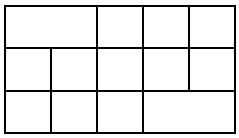
67. निम्नलिखित आकृति में कितने त्रिभुज हैं?

How many triangles are there in the following figure?



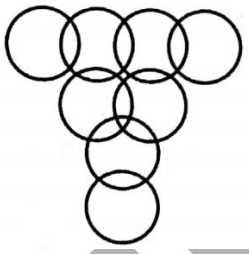
(a) 12 (b) 16
(c) 10 (d) 20

68. नीचे दी गई आकृति में कितने वर्ग हैं?
How many squares are there in the figure given below?



(a) 10 (b) 16
(c) 14 (d) 19

69. नीचे दी गई आकृति में कितने वृत्त हैं?
How many circles are there in the figure given below?

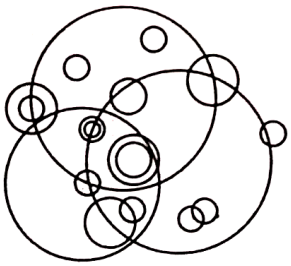


(a) 4 (b) 8
(c) 9 (d) 10

70. नीचे दी गई आकृति में कितने वृत्त हैं?
How many circles are there in the figure given below?

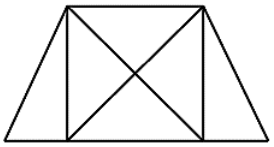
(a) 10 (b) 14
(c) 12 (d) 13

71. नीचे दी गई आकृति में कितने वृत्त हैं?
How many circles are there in the figure given below?



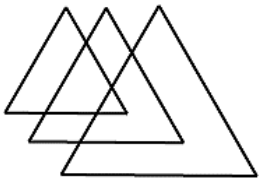
(a) 10 (b) 13
(c) 18 (d) 19

72. दी गई आकृति में कितने त्रिभुज हैं?
How many triangles are there in the given figure?



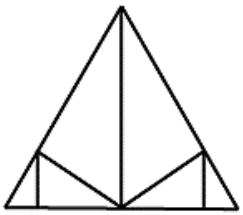
(a) 8 (b) 10
(c) 12 (d) 14

73. दी गई आकृति में कितने त्रिभुज हैं?
How many triangles are there in the given figure?



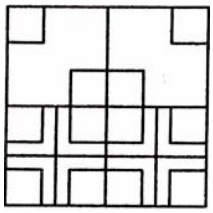
(a) 4 (b) 5
(c) 6 (d) 7

74. दी गई आकृति में कितने त्रिभुज हैं?
How many triangles are there in the given figure?



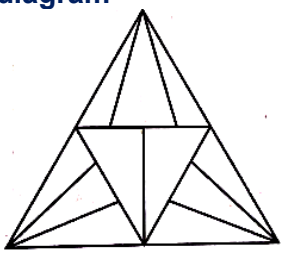
(a) 10 (b) 11
(c) 12 (d) 13

75. इस आकृति में कितने वर्ग हैं?
How many squares are there in this figure?



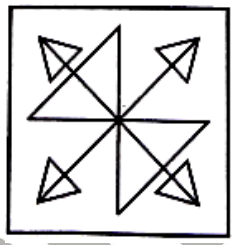
(a) 24 (b) 23
(c) 27 (d) 26

76. निम्नलिखित आरेख में त्रिभुजों की संख्या ज्ञात कीजिए
Find the number of triangles in the following diagram



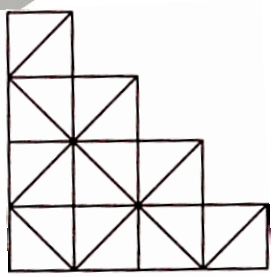
(a) 22 (b) 23
(c) 19 (d) 20

77. इस आकृति में त्रिभुजों की संख्या ज्ञात कीजिए।
Find out the number of triangles in this figure.



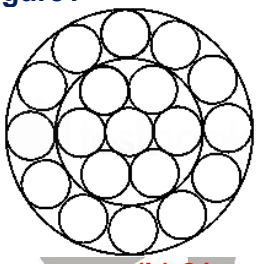
(a) 18 (b) 12
(c) 14 (d) 16

78. निम्नलिखित आकृति में कितने वर्ग हैं?
How many squares are there in the following figure?



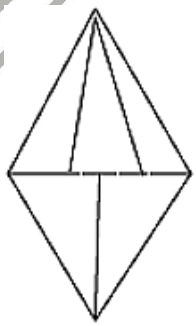
(a) 14 (b) 16
(c) 22 (d) 12

79. निम्नलिखित आकृति में कितने वृत्त हैं?
How many circles are there in the following figure?



(a) 19 (b) 21
(c) 17 (d) 18

80. इस आकृति में कितने त्रिभुज हैं?
How many triangles are there in this given figure?



(a) 8 (b) 9
(c) 10 (d) 12

Counting The Figure - Practice Sheet

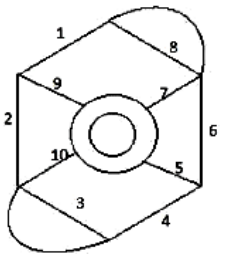
ANSWERS

1.	(c)	2.	(d)	3.	(c)	4.	(d)	5.	(a)
6.	(a)	7.	(b)	8.	(b)	9.	(a)	10.	(b)
11.	(d)	12.	(b)	13.	(a)	14.	(c)	15.	(d)
16.	(c)	17.	(a)	18.	(b)	19.	(d)	20.	(c)
21.	(b)	22.	(c)	23.	(a)	24.	(c)	25.	(a)
26.	(a)	27.	(d)	28.	(b)	29.	(c)	30.	(b)
31.	(c)	32.	(c)	33.	(c)	34.	(b)	35.	(b)
36.	(c)	37.	(a)	38.	(c)	39.	(c)	40.	(d)
41.	(b)	42.	(d)	43.	(c)	44.	(c)	45.	(d)
46.	(a)	47.	(c)	48.	(b)	49.	(a)	50.	(c)
51.	(a)	52.	(c)	53.	(d)	54.	(b)	55.	(a)
56.	(c)	57.	(c)	58.	(d)	59.	(d)	60.	(b)
61.	(b)	62.	(b)	63.	(b)	64.	(d)	65.	(a)
66.	(d)	67.	(d)	68.	(d)	69.	(b)	70.	(b)
71.	(d)	72.	(c)	73.	(c)	74.	(b)	75.	(c)
76.	(a)	77.	(a)	78.	(a)	79.	(b)	80.	(b)

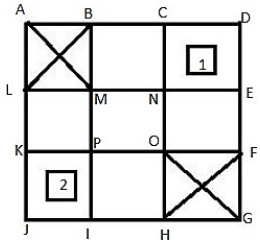
Counting The Figure - Practice Sheet

Solution

1. (c)

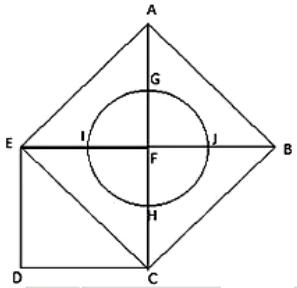


2. (d)



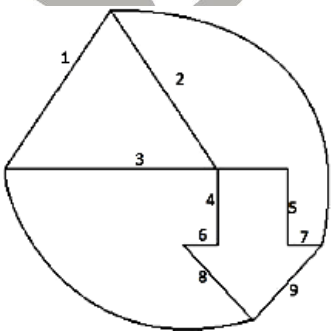
Smallest squares = 1, 2 = 2
ABML, BCMN, CDEN, EFON, MNOP, LMKP, KPIJ, POHI, OFGH, ACOK, BDFP, MEGI, LNHJ, ADGJ = 14
Total squares = 14 + 2 = 16

3. (c)

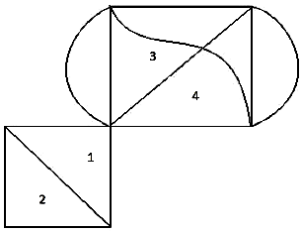


EDC, AEF, AFB, CFB, EFC - 5

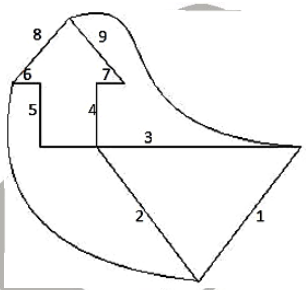
4. (d)



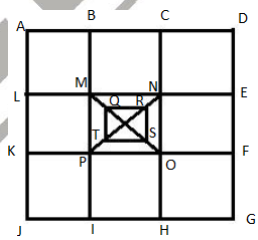
5. (a)



6. (a)

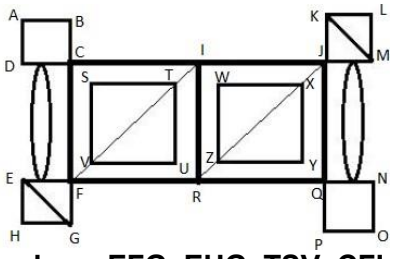


7. (b)



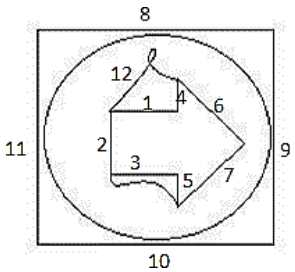
ABML, BCMN, CDEN, NEFO, MNOP, LMPK, KPIJ, POHI, OFGH, QRST, ADGJ, ACOK, BDFP, MEGI, LNHJ - 15

8. (b)



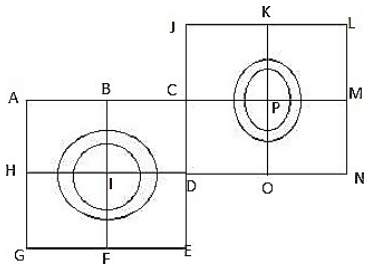
Triangles – EFG, EHG, TSV, CFI, TUV, IRF, WXZ, XYZ, IRJ, JQR, KLM, KJM – 12
Squares - ABCD, EFGH, TUVS, CIRF, WXYZ, IJRQ, KLMJ, NOPQ - 8

9. (a)



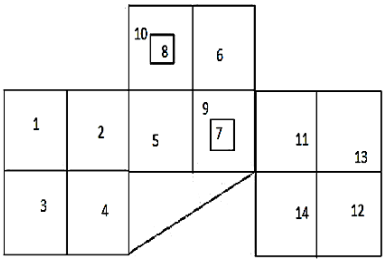
Counting The Figure - Practice Sheet

10. (b)



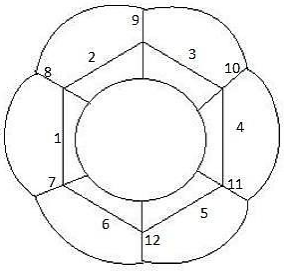
ABIH, BCDI, DEFI, HIFG, ACEG, JKPC, KLMP, PMNO, CPOD, JLND - 10

11. (d)

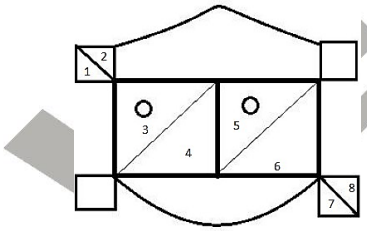


14 + 3 big squares = 17

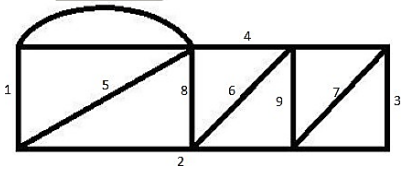
12. (b)



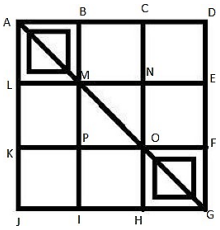
13. (a)



14. (c)

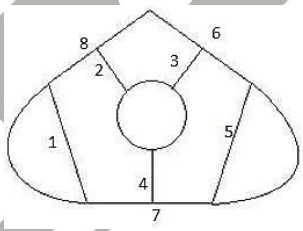


15. (d)

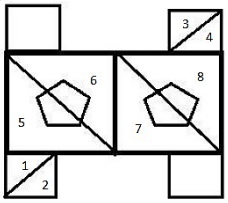


ABML, BCNM, CDEN, NEFO, MNOP, LMPK, KPIJ, POHI, OFGH, ADGJ, ACOK, BDFP, MEGI, KNHJ – 14
2 small squares inside the figure. Total = 2 + 14 = 16

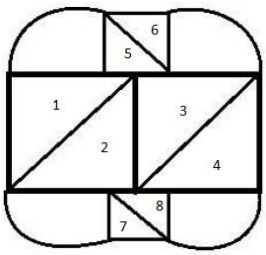
16. (c)



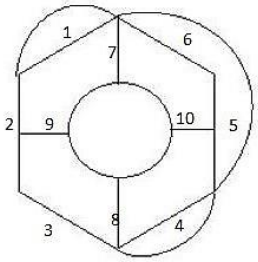
17. (a)



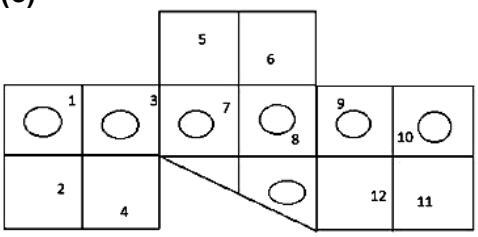
18. (b)



19. (d)

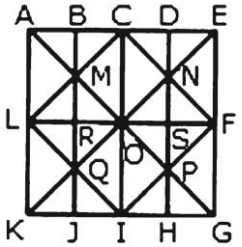


20. **(c)**



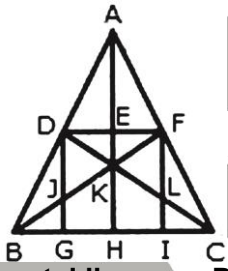
Three big squares Total = 12 + 3 = 15

21. **(b) 14**



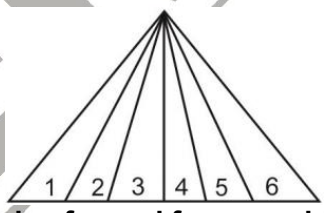
The horizontal lines are AK, BJ, CI, DH and EG i.e. 5 in number.
The vertical lines are AE, LF and KG i.e. 3 in number.
The slanting lines are LC, CF, FI, LI, EK and AG i.e. 6 in number.
Thus, there are 5 + 3 + 6 = 14 straight lines in the figure.

22. **(c)**



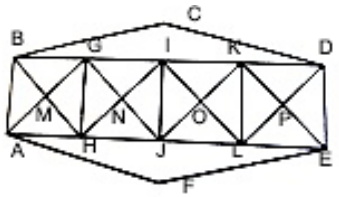
The Horizontal lines are DF and BC i.e. 2 in number.
The Vertical lines are DG, AH and FI i.e. 3 in number.
The Slanting lines are AB, AC, BF and DC i.e. 4 in number.
Thus, there are 2 + 3 + 4 = 9 straight lines in the figure.
Now, we shall count the number of triangles in the figure.
The simplest triangles are ADE, AEF, DEK, EFK, DJK, FLK, DJB, FLC, BJG and LIC i.e. 10 in number.
The triangles composed of two components each are ADF, AFK, DFK, ADK, DKB, FCK, BKH, KHC, DGB and FIC i.e. 10 in number.
The triangles composed of three components each are DFJ and DFL i.e. 2 in number.
The triangles composed of four components each are ABK, ACK, BFI, CDG, DFB, DFC and BKC i.e. 7 in number.
The triangles composed of six components each are ABH, ACH, ABF, ACD, BFC and CDB i.e. 6 in number.
There is only one triangle i.e. ABC composed of twelve components.
There are 10 + 10 + 2 + 7 + 6+ 1 = 36 triangles in the figure.

23. **(a)**



Triangles formed from one block = 6
If the number of triangles formed from such figure is asked. First we write the number in blocks and after that we sued the formulas No. of triangles = n(n+1)/2
Where n is biggest number of block in this figure the biggest number is 6
Therefore n = 6 is used
Therefore Total number of triangles = 6(6+1)/2 = 6 x 7 /2 = 21 triangles

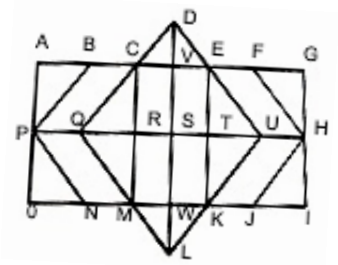
24. **(c)**



Triangles:
The Simplest triangles are BGM, GHM, HAM, ABM, GIN, IJN, JHN, HGN, IKO, KLO, LJO, JIO, KDP, DEP, ELP, LKP, BCD and AFE i.e 18 in number
The triangles composed of two components each are ABG, BGH, GHA, HAB, HGI, GIJ, IJH, JHG, JIK, IKL, KLJ,LJI, LKD, KDE, DEL and ELK i.e 16 in number.

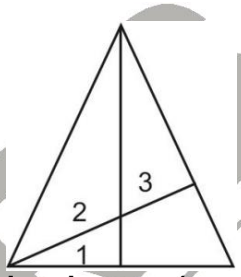
The triangles composed of four components each are BHI, GJK, ILD, AGJ, HIL and JKE i.e 6 in number.
Total number of triangles in the figure = 18 + 16 + 6 =40.
Squares:
The Squares composed of two components each are MGNH, NIOJ, and OKPL i.e 3 in number
The Squares composed of four components each are BGHA, GIJH, IKJL and KDEL i.e 4 in number
Total number of squares in the figure = 3 + 4 =7

25. (a) The figure may be labelled as shown



Rectangles:
The simplest rectangles are CVSR, VETS, RSWM and STKW i.e 4 in number.
The rectangles composed of two components each are CETR, VEKW, RTKM and CVWM i.e 4 in number.
The rectangles composed of three components each are ACRP, PRMO, EGHT and THIK i.e 4 in number.
The rectangles composed of four components each are CEKM, AVSP, PSWO, VGHS and SHIW i.e 5 in number.
The rectangles composed of five components each are AETP, PTKO, CGHR and RHIM i.e 4 in number.
The rectangles composed of six components each are ACMO and EGIK i.e 2 in number.
The rectangles composed of eight components each are AGHP, PHIO, AVWO and VGIW i.e 4 in number.
The rectangles composed of ten components each are AEKO and CGIM i.e 2 in number.
AGIO is the only rectangle having sixteen components
Total number of rectangles in the given figure = 4 + 4 + 4 + 5 + 4 + 2 + 4 + 2 + 1 = 30.
Hexagons:
The hexagons in the given figure are CDEKLM, CEUKMQ, CFHJMQ, BEUKNP and BFHJNP. So, there are 5 hexagons in the given figure.

26. (a)

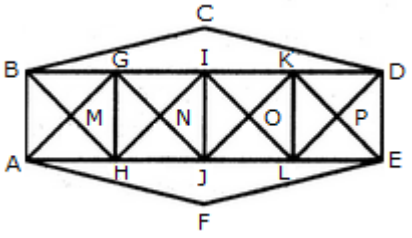


Small triangles + (no of diagonal)^2+ 1(large triangle)
Here small triangle are = 3
Diagonal = 2
Total number of Triangles: $3 + (2)^2 + 1 = 8$

27. (d)
The given figure can be labelled as :

The simplest triangles are AJF, FBG, HDI, GCH and JEI i.e 5 in number.
The triangles composed of the three components each are AIC, FCE, ADG, EBH and DJB i.e 5 in number.
Thus, there are 5 + 5 = 10 triangles in the given figure.

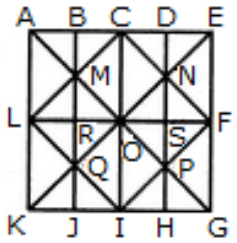
28. (b) The given figure can be labelled as:



Straight lines:
The number of straight lines are 19

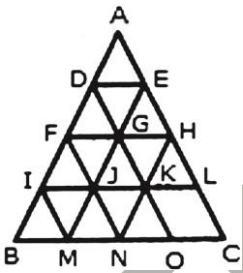
i.e. BC, CD, BD, AF, FE, AE, AB, GH, IJ, KL, DE, AG, BH, HI, GJ, IL, JK, KE and DL.

29. (c) The given figure can be labelled as shown:



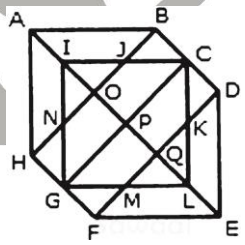
The horizontal lines are AK, BJ, CI, DH and EG i.e. 5 in number.
The vertical lines are AE, LF and KG i.e. 3 in number.
The slanting lines are LC, CF, FI, LI, EK and AG i.e. 6 in number.
Thus, there are 5 + 3 + 6 = 14 straight lines in the figure.

30. (b)



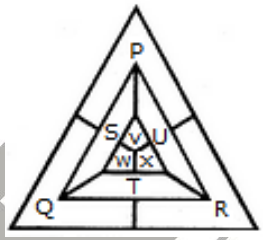
The horizontal lines are DE, FH, IL and BC i.e. 4 in number.
The slanting lines are AC, DO, FN, IM, AB, EM and HN i.e. 7 in number.
Thus, there are 4 + 7 = 11 straight lines in the figure.

31. (c)



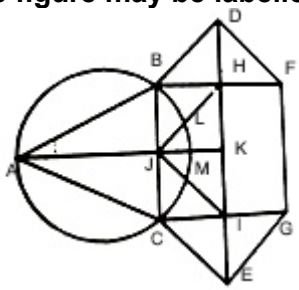
The simplest triangles are IJO, BCJ, CDK, KQL, MLQ, GFM, GHN and NIO i.e. 8 in number.
The triangles composed of two components each are ABO, AHO, NIJ, IGP, ICP, DEQ, FEQ, KLM, LCP and LGP i.e.10 in number.
The triangles composed of four components each are HAB, DEF, LGI, GIC, ICL and GLC i.e. 6 in number.
Total number of triangles in the figure = 8 + 10 + 6 = 24.

32. (c) The given figure can be labelled as shown:



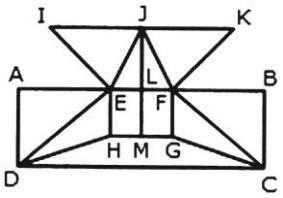
The spaces P, Q and R have to be shaded by three different colours definitely (since each of these three spaces lies adjacent to the other two).
Now, in order that no two adjacent spaces be shaded by the same colour, the spaces T, U and S must be shaded with the colours of the spaces P, Q and R respectively.
Also the spaces X, V and W must be shaded with the colours of the spaces S, T and U respectively i.e. with the colours of the spaces R, P and Q respectively.
Thus, minimum three colour pencils are required.

33. (c) The figure may be labelled as shown



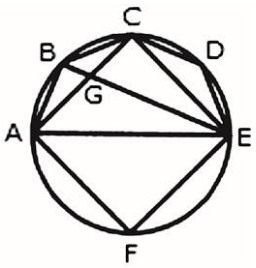
The simplest triangles are ABJ, ACJ, BDH, DHF, CIE and GIE i.e 6 in number.
The triangles composed of two components each are ABC, BDF, CEG, BHJ, JHK, JKI and CJI i.e 7 in number.
There is only one triangle JHI which is composed of four components.
Thus, there are 6 + 7 + 1 = 14 triangles in the given figure.

34. **(b)**



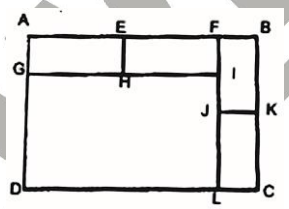
The horizontal lines are IK, AB, HG and DC i.e. 4 in number.
The vertical lines are AD, EH, JM, FG and BC i.e. 5 in number.
The slanting lines are IE, JE, JF, KF, DE, DH, FC and GC i.e. 8 is number.
Thus, there are 4 + 5 + 8 = 17 straight lines in the figure.

35. **(b)**



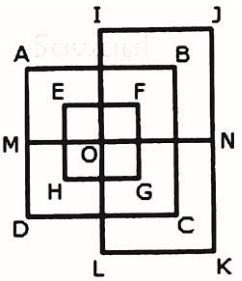
The simplest triangles are ABG, BCG, CGE, CDE, AGE and AEF i.e. 6 in number.
The triangles composed of two components each are ABE, ABC, BCE and ACE i.e. 4 in number.
There are 6 + 4 = 10 triangles in the figure.

36. **(c)**



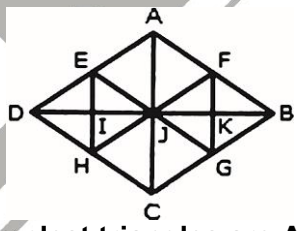
The simplest rectangles are AEHG, EFJH, FBKJ, JKCL and GILD i.e 5 in number.
The rectangles composed of two components each are AFJG and FBCL i.e 2 in number
Only one rectangle namely AFLD is composed of three components and only one rectangle namely ABCD is composed of five components.
Thus, there are 5 + 2 + 1 + 1 = 9 rectangles in the given figure.

37. **(a)**



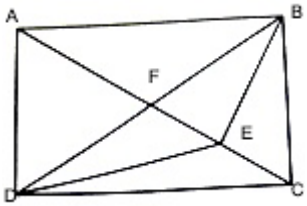
The horizontal lines are IJ, AB, EF, MN, HG, DC and LK i.e. 7 in number.
The vertical lines are AD, EH, IL, FG, BC and JK i.e. 6 in number.
Thus, there are 7 + 6 = 13 straight lines in the figure.

38. **(c)**



The simplest triangles are AFJ, FJK, FKB, BKG, JKG, JGC, HJC, HIJ, DIH, DEI, EIJ and AEJ i.e. 12 in number.
The triangles composed of two components each are JFB, FBG, BJG, JFG, DEJ, EJH, DJH and DEH i.e. 8 in number.
The triangles composed of three components each are AJB, JBC, DJC and ADJ i.e. 4 in number.
The triangles composed of six components each are DAB, ABC, BCD and ADC i.e. 4 in number.
Thus, there are 12 + 8 + 4 + 4 = 28 triangles in the figure.

39. **(c) We may label the figure as shown.**



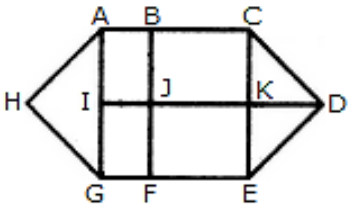
The Simplest triangles are AFB, FEB, EBC, DEC, DFB and AFD i.e 6 in number.
The triangles composed of two components each are AEB, FBC, DFC, ADE, DBE and ABD i.e 6 in number.

The triangles composed of three components each are ADC and ABC i.e 2 in number.
There is only one triangle i.e DBC which is composed of four components.
Thus, there are 6 + 6 + 2 + 1 = 15 triangles in the figure

40. (d)
First mark each rectangles 1, 2 and 3 after we can cube of 1 +8+27=36 we get the answer

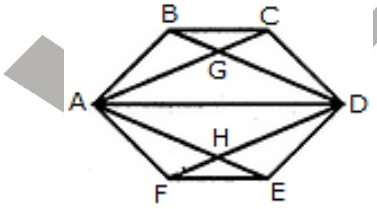
1	2	3
2		
3		

41. (b) The figure may be labelled as shown.



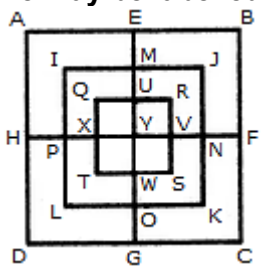
The simplest rectangles are ABJI, BCKJ, IJFG and JKEF i.e. 4 in number.
The rectangles composed of two components each are ACKI, BCEF, IKEG and ABFG i.e. 4 in number.
The only rectangle composed of four components is ACEG.
Thus, there are 4 + 4 + 1 = 9 rectangles in the given figure.

42. (d)



The quadrilaterals in the figure are ABCD, ABDE, ABDF, ABDH, CDHA, CDEA, CDFA, DEAG, DEFA, FAGD and AGDH.
The number of quadrilaterals in the figure is 11.

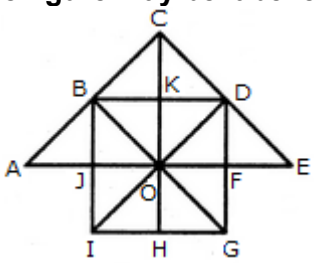
43. (c)
The figure may be labelled as shown.



The simplest squares are QUYX, URVY, YVSW and XYWT i.e. 4 in number.
The squares composed of two components each are IMYP, MJNY, YNKO and PYOL i.e. 4 in number.
The squares composed of three components each are AEYH, EBFY, YFCG and HYGD i.e. 4 in number.
There is only one square i.e. QRST composed of four components.
There is only one square i.e. IJKL composed of eight components.
There is only one square i.e. ABCD composed of twelve components.
Total number of squares in the given figure = 4 + 4 + 4+1 + 1 + 1 = 15.

44. (c)

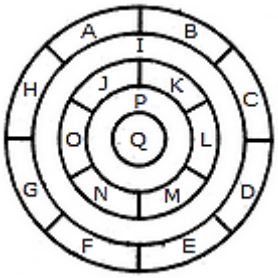
45. (d) The figure may be labelled as shown.



Triangles:
The simplest triangles are JBO, BKO, KDO, DFO, FGO, GHO, HIO, IJO, ABJ, BCK, CKD and DEF i.e.12 in number.
The triangles composed of two components each are IBO, BDO, DGO, GIO, ABO, CDO, CBO, CBD and DEO i.e. 9 in number.
The triangles composed of four components each are IBD, BDG, DGI, GIB, ACO and COE i.e. 6 in number.
There is only one. Triangle i.e. ACE composed of eight components.
Thus, there are 12 + 9 + 6 + 1 = 28 triangles in the given figure.

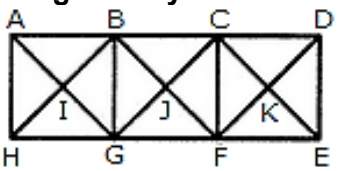
Squares:
The squares composed of two components each are BKOJ, KDFO, OFGH and JOHI i.e. 4 in number.
There is only one square i.e. CDOB composed of four components.
There is only one square i.e. BDGI composed of eight components.
Thus, there are 4 + 1 + 1 = 6 squares in the given figure.

46. (a) The figure may be labelled as shown.



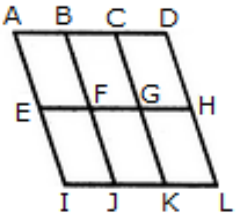
The regions A, C, E and G can have the same colour say colour 1.
The regions B, D, F and H can have the same colour (but different from colour 1) say colour 2.
The region 1 lies adjacent to each one of the regions A, B, C, D, E, F, G and H and therefore it should have a different colour say colour 3.
The regions J, L and N can have the same colour (different from colour 3) say colour 1.
The regions K, M and O can have the same colour (different fromthe colours 1 and 3). Thus, these regions will have colour 2.
The region P cannot have any of the colours 1 and 2 as it lies adjacent to each one of the regions J, K, L, M, N and O and so it will have colour 3.
The region Q can have any of the colours 1 or 2.
Minimum number of colours required is 3.

47. (c) The figure may be labelled as shown.



Triangles:
The, simplest triangles are ABI, BGI, GHI, HAI, BCJ, CFJ, FGJ, GBJ, CDK, DEK, EFK and FCK i.e. 12 in number.
The triangles composed of two components each are ABG, BGH, GHA, HAB, BCF, CFG, FGB, GBC, CDE, DEF, EFC and FGD i.e. 12 in number.
The triangles composed of four components each are AGC, BFD, HBF and GCE i.e.4 in number.
Thus, there are 12 + 12 + 4 = 28 triangles in the given figure.
Squares:
The squares composed of two components each are BJGI and CKFJ i.e. 2 in number.
The squares composed of four components each are ABGH, BCFG and CDEF i.e. 3 in number.
Total number of squares in the figure = 2 + 3 = 5.

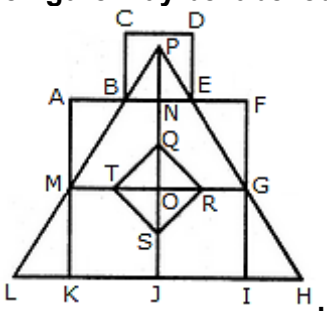
48. (b) The figure may be labelled as shown.



The simplest ||gms are ABFE, BCGF, CDHG, EFJI, FGKJ and GHLK. These are 6 in number.
The parallelograms composed of two components each are ACGE, BDHF, EGKI, FHLJ, ABJI, BCKJ and CDLK.
Thus, there are 7 such parallelograms.
The parallelograms composed of three components each are ADHE and EHLI i.e. 2 in number.
The parallelograms composed of four components each are ACKI and BDLJ i.e. 2 in number
There is only one parallelogram composed of six components, namely ADLI.
Thus, there are 6 + 7 + 2 + 2 + 1 = 18 parallelograms in the figure.

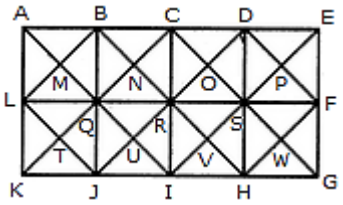
Counting The Figure - Practice Sheet

49. **(a) The figure may be labelled as shown.**



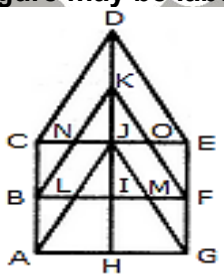
Triangles:
The simplest triangles are BPN, PNE, ABM, EFG, MLK, GHI, QRO, RSO, STO and QTO i.e. 10 in number.
The triangles composed of two components each are BPE, TQR, QRS, RST and STQ i.e. 5 in number.
The triangles composed of three components each are MPO and GPO i.e. 2 in number.
The triangles composed of six components each are LPJ, HPJ and MPG i.e. 3 in number.
There is only one triangle LPH composed of twelve components.
Total number of triangles in the figure = 10 + 5 - 2 + 3 + 1 = 21.
Squares:
The squares composed of two components each are KJOM and JIGQ i.e. 2 in number.
The squares composed of three components each are ANOM, NFGO and CDEB i.e.3 in number.
There is only one square i.e. QRST composed of four components.
There is only one square i.e. AFIK composed of ten components.
Total number of squares in the figure = 2 + 3 + 1 + 1 = 7.

50. **(c) The figure may be labelled as shown.**



The squares composed of two components each are BNQM, CORN, DPSO, MQTL, NRUQ, OSVR, PFWS, QUJT, RVIU and SWHV i.e. 10 in number.
The squares composed of four components each are ABQL, BCRQ, CDSR, DEFS, LQJK, QRIJ, RSHI and SFGH i.e. 8 in number.
The squares composed of eight components each are BRJL, CSIQ and DFHR i.e. 3 in number.
The squares composed of sixteen components each are ACIK, BDHJ and CEGI i.e. 3 in number.
Thus, there are 10 + 8 + 3 + 3 = 24 squares in the figure.

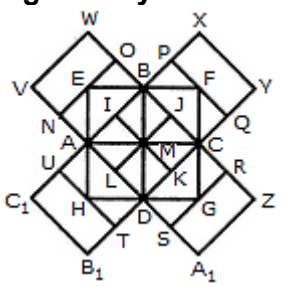
51. **(a) The figure may be labelled as shown.**



Triangles:
The simplest triangles are KJN, KJO, CNB, OEF, JIL, JIM, BLA and MFG i.e. 8 in number.
The triangles composed of two components each are CDJ, EDJ, NKO, JLM, JAH and JGH i.e. 6 in number.
The triangles composed of three components each are BKI, FKI, CJA and EJG i.e. 4 in number.
The triangles composed of four components each are CDE and AJG i.e. 2 in number.
The only triangle composed of six components is BKF.
Thus, there are 8 + 6 + 4 + 2 + 1 = 21 triangles in the given figure.
Parallelograms:
The simplest parallelograms are NJLB and JOFM i.e. 2 in number.
The parallelograms composed of two components each are CDKB, DEFK, BIHA and IFGH i.e.4 in number.
The parallelograms composed of three components each are BKJA, KFGJ, CJIB and JEFI i.e.4 in number.
There is only one parallelogram i.e. BFGA composed of four components.

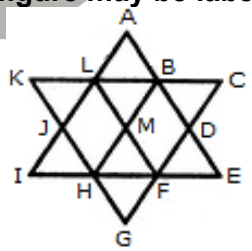
The parallelograms composed of five components each are CDJA, DEGJ, CJHA and JEGH i.e.4 in number.
The only parallelogram composed of six components is CEFB.
The only parallelogram composed of ten components is CEGA.
Thus, there are 2 + 4 + 4 + 1 + 4+ 1 + 1 = 17 parallelograms in the given figure.
(Here note that the squares and rectangles are also counted amongst the parallelograms).

52. (c) The figure may be labelled as shown.



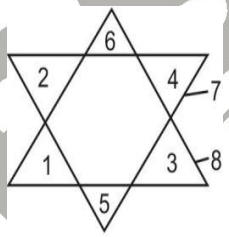
The squares composed of two components each are BJMI, CKMJ, DLMK and AIML i.e. 4 in number.
The squares composed of three components each are EBMA, BFCM, MCGD and AMDH i.e. 4 in number.
The squares composed of four components each are VWBA, XYCB, ZA1DC and B1C1AD i.e. 4 in number.
The squares composed of seven components each are NOJL, PQKI, RSLJ and TUIK i.e. 4 in number.
There is only one square i.e. ABCD composed of eight components.
There is only one square i.e. EFGH composed of twelve components.
Total number of squares in the figure = 4 + 4 + 4 + 4 + 1 + 1 = 18.

53. (d) The figure may be labelled as shown.



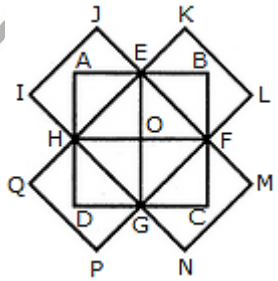
The simplest parallelograms are LMHJ and BDFM i.e. 2 in number. The parallelograms composed of two components each are ABML and MFGH i.e. 2 in number.
The parallelograms composed of three components each are LBHI, LBEF, BDGH, DFLA, BCFH, KLFH, A6HJ and LFGJ i.e. 8 in number.
The parallelograms composed of six components each are LCFI, KBEH and ADGJ i.e. 3 in number.
Total number of parallelograms in the figure = 2 + 2 + 8 + 3 = 15.

54. (b)



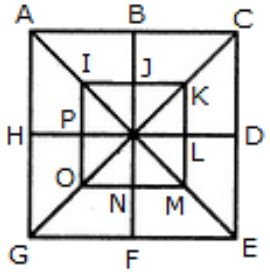
Hence, there are 8 triangles in this figure

55. (a) The figure may be labelled as shown.



The rectangles composed of two components each are HIJE, EKJ,F, FMNG, GPQH, AEOH, EBFO, OFCG and HOGD i.e. 8 in number.
The rectangles composed of four components each are ABFH, BCGE, CDHF, DAEG and EFGH i.e. 5 in number.
The rectangles composed of six components each are IJFG, KLGH, MNHE and PQEF i.e. 4 in number.
The rectangles composed of eight components each are IJMN, KLPQ and ABCD i.e. 3 in number.
Thus, there are 8 + 5 + 4 + 3 = 20 rectangles in the given figure.
(Here note that the squares are also counted amongst rectangles)

56. **(c) The figure may be labelled as shown.**



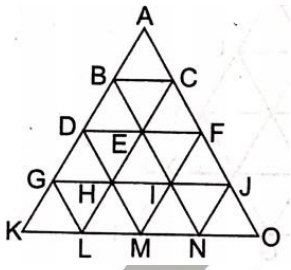
Triangles:
The simplest triangles are IJQ, JKQ, KLQ, LMQ, MNQ, NOQ, OPQ and PIQ i.e. 8 in number. The triangles composed of two components each are ABQ, BCQ, CDQ, DEQ, EFQ, FGQ, GHQ, HAQ, IKQ, KMQ, MOQ and OIQ i.e. 12 in number. The triangles composed of four components each are ACQ, CEQ, EGQ, GAQ, IKM, KMO, MOI and OIK i.e. 8 in number.
The triangles composed of eight components each are ACE, CEG, EGA and GAC i.e. 4 in number.
Total number of triangles in the figure = 8 + 12 + 8 + 4 = 32.
Squares:
The squares composed of two components each are IJQP, JKLQ, QLMN and PQNO i.e. 4 in number.
The squares composed of four components each are ABQH, BCDQ, QDEF and HQFG i.e. 4 in number.
There is only one square i.e. IKMO composed of eight components.
There is only one square i.e. ACEG composed of sixteen components.
Thus, there are 4 + 4 + 1 + 1= 10 squares in the given figure.

57. **(c)**

1	2	3	4
2			
3			
4			

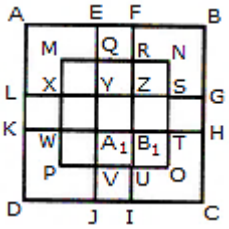
Total no. of squares = $1^2 + 2^2 + 3^2 + 4^2$ = 1 + 4 + 9+ 16 = 30 squares

58. **(d)**
There are total 27 triangles in the given figure.



From this figure it is clear that,
Triangles formed by single units = ΔABC, ΔBDE, ΔBCE, ΔCEF, ΔDGH, ΔDHE, ΔHEI, ΔEIF, ΔFIJ, ΔGKL, ΔGLH, ΔLHM, ΔHMI, ΔMIN, ΔINJ, and ΔNJO i.e., 16 triangles.
Triangles formed by combining four triangles are ΔADF, ΔBGI, ΔCHJ, ΔDKM, ΔLEN, ΔMFO and ΔDFM i.e., 7 triangles.
Triangle formed by combining 9 triangles are ΔAGJ, ΔBKN, and ΔCLO i.e., 3 triangles. One triangle ΔAKO formed by complete figure.
So, total number of triangles = 16 + 7 + 3 + 1 = 27

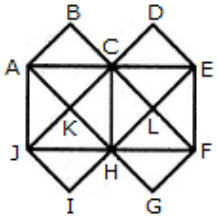
59. **(d) The figure may be labelled as shown.**



The simplest squares are EFRQ, MQYX, QRZY, RNSZ, LXWK, XYA1W, YZB1A1, ZSTB1, SGHT, WA1VP, A1B1UV, B1TOU and VUIJ i.e. 13 in number.
The squares having two components each are AEYL, FBGZ, KA1JD and B1HCI i.e. 4 in number.
The squares having four components each are MRB1W, QNTA1 XZUP and YSOV i.e. 4 in number.
The squares having seven components each are AFB1K, EBHA1 LZID and YGCJ i.e. 4 in number.
There is only one square i.e. MNOP composed of nine components.
There is only one square i.e. ABCD composed of seventeen components.
There are 13+ 4 + 4 + 4+1 + 1 = 27 squares in the figure.

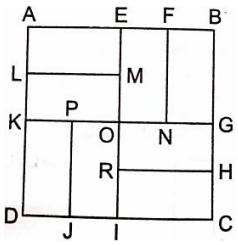
Counting The Figure - Practice Sheet

60. **(b) The figure may be labelled as shown.**



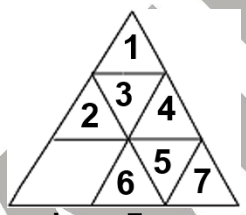
The horizontal lines are AE and JF i.e. 2 in number. The vertical lines are AJ, CH and EF i.e. 3 in number.
The slanting lines are AG, BF, JD, IE, AB, DE, JI and FG i.e. 8 in number.
Total number of straight lines needed to construct the figure = 2 + 3 + 8 = 13.

61. **(b)**



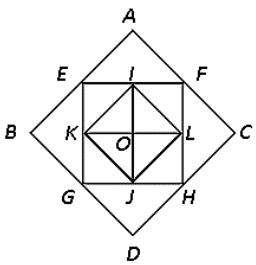
Total 16 rectangles are as follow
☐AEID, ☐BEIC, ☐ABGK, ☐KGCD, ☐AEML, ☐LMOK, ☐KPJD, ☐POIJ, ☐EFNO, ☐BGNF, ☐ORHG, ☐HCIR, ☐AFNK, ☐BERH, ☐PGCJ and ☐LMID

62. **(b)**



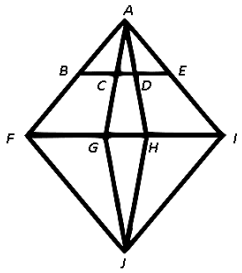
Small triangles = 7
Triangles made by 4 small triangles = 2
Triangles made by 2 small triangles and 1 other figure = 1
Triangles made by all the small figures=1
Total triangles = 7 + 2 + 1 + 1 = 11

63. **(b)**



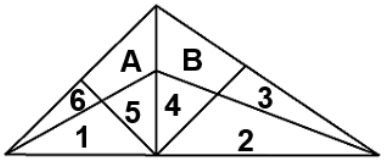
Small traingles = (AEF, AEG, GDH), (IEK, IFL, JLH, JKG), (IOK, IOL, JOL, KOJ)
Big traignels = IKL, JKL, IJK, IJL
Thus, total triangles = 16
= Ans (b)

64. **(d)**



Smaller traingles = (ABC), (ACD), (ADE), (FGJ), (GHJ), (HIJ)
Triangles made by combination of triangles = (ABD), (ACE), (AFG), (AGH), (AHI), (FHJ), (GIJ)
Triangles made by combination of 3 triangles = (ABE), (FIJ)
Triangles made by combination of 4 triangles = (AFH), (AGI)
Triangles made by combination of 6 triangles = (AFI)
Thus, total triangles = 18

65. **(a)**



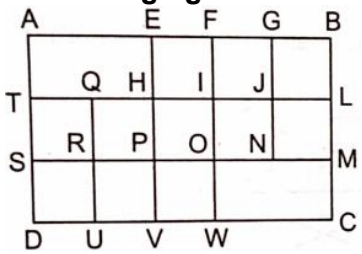
Small triangles = 6
Triangles made by 2 small triangles = 4
Triangles made by 1 small triangles and 1 other figure = 4
Triangles made by 3 small triangles and 1 other figure = 2
Triangles made by all the figures = 1 + 1 = 2
Total triangles = 6 + 4 + 4 + 2 + 2 = 18

66. **(d)**
Small traingles = 6
Triangles made by combning 2 small triangles = 3
Trianlges made by combining 3 small triangles = 6
Large triangles = 1
So, total = 6 + 3 + 6 + 1 = 16

Counting The Figure - Practice Sheet

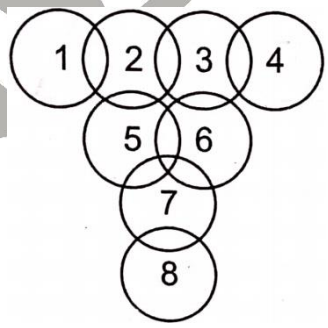
67. **(d)**
Smaller triangles = 12
Triangles formed with 2 triangles = 4
Larger triangles (combining triangles at the centre) = 4
Thus, total triangles = 12 + 4 + 4 = 20

68. **(d)**
There are a total of 19 squares in the figure, which have been marked as shown in the following figure



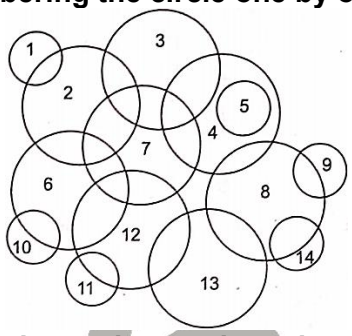
There are three squares in the upper row ☐EFIH, ☐FGJI and ☐GBLJ.
There are five squares in the middle row namely
☐TQRS, ☐QHPR, ☐HIOP, ☐IJNO and ☐JLMN.
There are three squares in the lower row namely ☐SRUD, ☐RPVU and ☐POWV.
By combining two upper rows there are three squares namely ☐AEPS, ☐EGNP and ☐FBMO.
By combining two lower rows there are three squares namely ☐THVD, ☐QIWU and ☐ILCW.
From all the three rows combined together there are two squares namely ☐AFWD and ☐EBCV.
∴ Total number of squares = 3 + 5 + 3 + 3 + 3 + 2 = 19

69. **(b)**



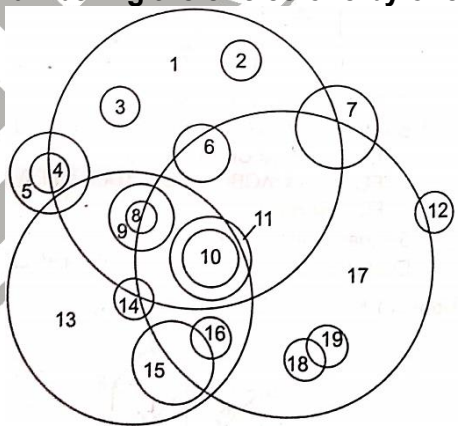
Clearly shown that, total number of circles = 8

70. **(b)**
On numbering the circle one by one i.e.,



Clearly, shown that total number of circles = 14

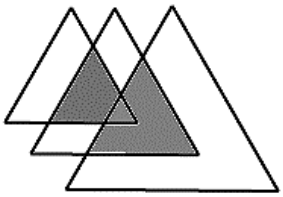
71. **(d)**
On numbering the circles one by one i.e.,



Clearly shown that, total number of circle = 19

72. **(c)**
Smaller triangles = 6
Triangles formed by combination of 3 triangles = 2
Larger triangles (at the diagonals) = 4
Thus, total triangles = 6 + 2 + 4 = 12

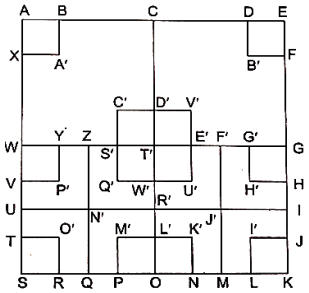
73. **(c)**



Larger triangles = 3
Triangles formed with color combination (blue+red), (red) and (red+yellow) = 3
Thus, total triangles = 3 + 3 = 6

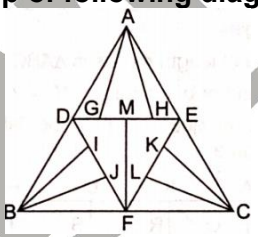
74. (b)
Small triangles = 6
Triangles formed with combination of 2 traingles = 2
Triangles formed with combination of 3 triangles = 2
Larger triangle = 1
Thus, total triangles = 6 + 2 + 2 + 1 = 11

75. (C)



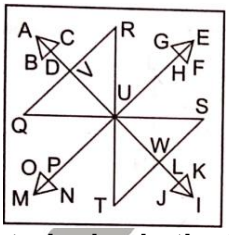
Name of the squares are
□ABA'X, □DEFB', □C'D'T'S', □D'V'E'T, □WYP'V, □S'T'W'Q', □T'E'U'W', □G'GHH', □TO'RS, □M'L'OP, □L'K'NO, □I'JKL, □ACT'W, □CEGT', □WT'OS, □T'GKO, □AEKS, □C'V'U'Q', □WZN'U, □ZT'R'N', □T'F'J'R', □F'GIJ, □UN'QS, □N'R'OQ, □R'J'MO, □J'IKM, □ZF'MQ.
Hence, there are 27 squares in this figure.

76. (a)
In the given diagram, there are 22 triangles which can be better understood with the help of following diagram.



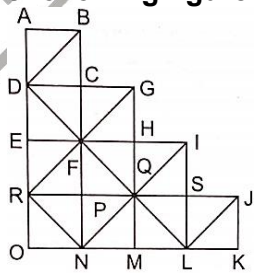
In the above figures,
Triangles consisting of 1 unit are ΔADG, ΔAGH, ΔAHE, ΔDMF, ΔFME, ΔDIB, ΔIBJ, ΔJBF, ΔCFL, ΔACLK and ΔCKE i.e., 11 triangles.
Triangles consisting of 2 units are ΔADH, ΔAGE, ΔDFE, ΔDBJ, ΔIBF, ΔECL and ΔCKF i.e., 7 triangles.
Triangles consisting of 3 units are ΔADE, ΔBDF and ΔCFE i.e., 3 triangles.
Triangles consisting of whole figure is ΔABC i.e., 1 triangle.
So, total number of triangles
= 11 + 7 + 3 + 1 = 22

77. (a)



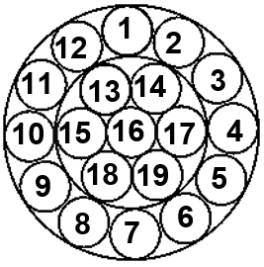
There are 18 traingles in the figure namely,
ΔABC, ΔABD, ΔACD, ΔEFG, ΔEFH, ΔEGH, ΔIJK, ΔIJL, ΔIKL, ΔMNO, ΔMOP, ΔMNP, ΔQRU, ΔQVU, ΔRVU, ΔSTU, ΔSWU and ΔTWU

78. (a)
The figure in question may b labelled as shown in the following figure



There are 14 squares in the figure namely,
□ABCD, □DCFE, □CGHF, □EFPR, □FHQP, □HISQ, □RPNO, □PQMN, □MQSL, □SJKL, □DGQR, □EHMO, □FILN and □FQNR.

79. (b)



Total circles = 19 + 2 big circles = 21

80. (b)
Small triangles = 5
Traingles formed by combination of 2 triangles = 3
Triangles formed by combination of 3 triangles = 1
Thus, total triangles = 5 + 3 + 1 = 9