पुष्पना International School
Shree Swaminarayan Gurukul, Zundal

Grade – V

Maths

Specimen Copy

Year22-23

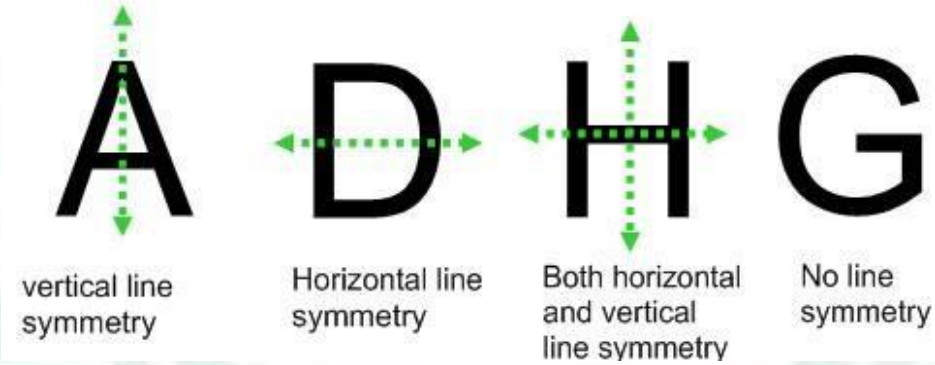
Chapter – 5
Does It Looks The Same?

❖ **Introduction:**

- Line of symmetry – A line dividing a figure into two identical parts is called the line of symmetry.
- There are 3 types of lines of symmetry.
    1) Vertical line symmetry
    2) Horizontal line symmetry
    3) Oblique line symmetry

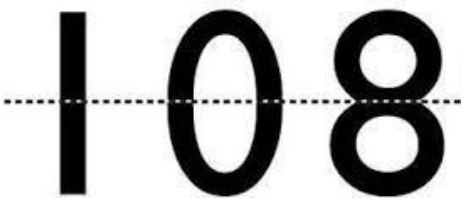
- Different types of symmetry

    1) Symmetry of alphabets.



- One line of symmetry: K, M, T, U, V, W, Y.
- Two line of symmetry: H, I, X.
- No line of symmetry: F, G, J, L, N, P, Q, R, S, Z.

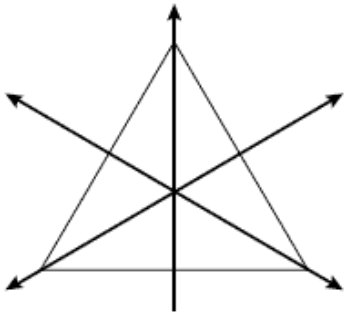
    2) Symmetry of number.



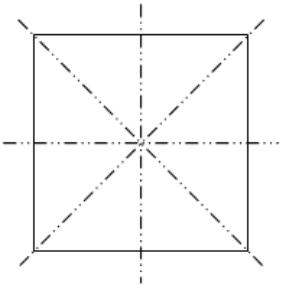
- No line of symmetry: 1, 2, 4, 5, 6, 7, 9

3) Shapes of Symmetry.

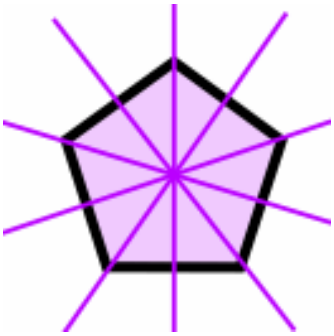
a) Equilateral Triangle: 3 line of symmetry.



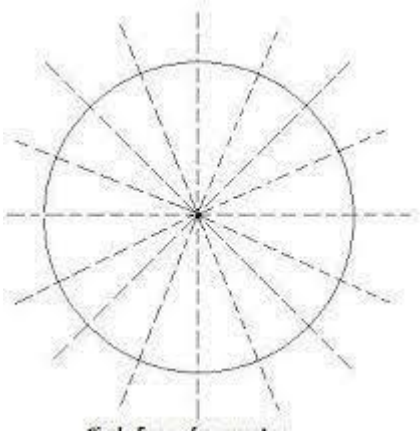
b) Square: 4 line of symmetry.



c) A regular pentagon: 5 line of symmetry.



d) A circle: Infinite lines of symmetry.



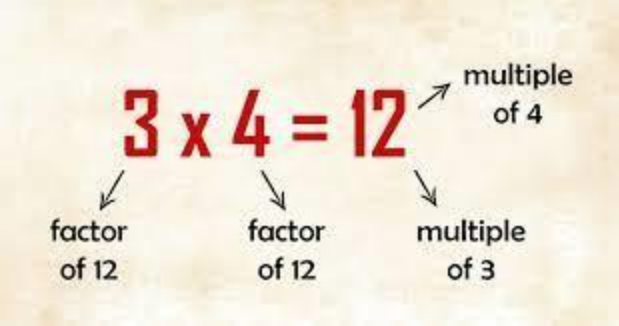
Chapter–6
Be My Multiple, I'll BeYour Factor

Key Points to Remember

- **Introduction.**
- **Highest common factor by prime factorization method**
- **Lowest common factor by prime factorization method**
- **Make the factor tree by prime factorization method**
- **Activity**

❖ Introduction.

- Fractor – A number is said to be a factor of another number if it can divide the number completely.
- Example $6 \div 3 = 2$
- 1 is the factor of every number. It is also the smaller factor of a number.
- Multiples– A number is said to be a multiple of another number if it can be divided completely by that number.
- Example 2 can divide 4 completely. So, 4 is a multiple of 2.



- Prime numbers– The numbers having only two factors–1 and the number itself are called prime numbers.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

- **Composite numbers –**The numbers having more than two factors are called composite numbers. Example – 4, 6, 8, 9, 10, 12 ……
- 1 is either a prime or a composite number.
- **Divisibility:-**
    a) Divisibility of 2 – If the last digit (ones place) of a number are 0, 2, 4, 6, 8 the number is divisible by 2. For example – 224, 680, 456.
    b) Divisibility of 3 – If the sum of the digits of a number is a multiple of 3, so the number is divisible by 3. For example – 45, 330, 753.
    c) Divisibility of 4 – If the last two digit of a number are divisible by 4, the number is divisible by 4. For example – 428, 1432, 916.
    d) Divisibility of 5- If the last digit (ones place) of a number are 0 and 5 the number is divisible by 5. For example- 680, 245,630
    e) Divisibility of 10 - If the last digit (ones place) of a number is 0 the number is divisible by 10. For example- 680, 250,630

❖ **Lowest common multiples (LCM)**

Notes -While doing prime factorization by division method, start dividing the given number by the smallest prime number and continue till we are left with 1.

a) 6, 8 and 12

2	6,	8,	12
2	3,	4,	6
2	3,	2,	3
3	3,	1,	3
	1,	1,	1

Lcm = 2 x 2 x 2 x 3 = 24

b) 24 and 90

2	24, 90
2	12, 45
2	6, 45
3	3, 45
3	1, 15
5	1, 5
	1, 1

LCM = 2x2x2x3x3x5 = 360

c) 36, 48 and 72

2	36,	48,	72,
2	18,	24,	36
2	9,	12,	18
2	9,	6,	9
3	9,	3,	9
3	3,	1,	3
	1,	1,	1

LCM = 2x2x2x2x3x3 = 144

d) 60 and 84

2	60	84
2	30	42
3	15	21
3	5	7
3	5	7
5	5	7
7	1	7
	1	1

LCM = 2x2x3x3x5x7 = 1260

e) 20, 25 and 30

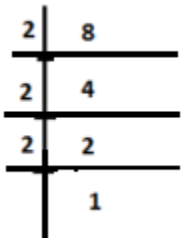
2	20	25	30
2	10	25	15
3	5	25	15
5	5	25	5
5	1	5	1
	1	1	1

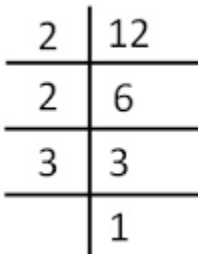
LCM = 2x2x3x5x5 = 300

❖ Highest common factor (H.C.F.)

Notes-While doing prime factorization by division method, start dividing the given number by the smallest prime number and continue till we are left with 1.

a) 8 and 12





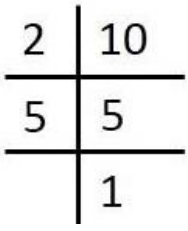
8 = 2 x 2 x 2

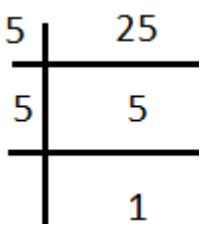
12 = 2 x 2 x 3

HCF = 2 x 2 = 4

(Take the highest common factor)

b) 10 and 25





10 = 2 x 5

25 = 5 x 5

HCF = 5

c) 15 and 21

3	15
5	5
	1

3	21
7	7
	1

15 = 3 x 5

21 = 3 x7

HCF = 3

d) 60 and 72

2	60
2	30
3	15
5	5
	1

2	72
2	36
2	18
3	9
3	3
	1

60 = 2 x2 x 3 x 5

72 = 2 x 2 x 2 x 3 x 3

HCF = 2 x 2 x 3 = 12

e) 18 and 48

2	18
3	9
3	3
	1

2	48
2	24
2	12
2	6
3	3
	1

18 = 2 x 3 x 3

48 = 2 x 2 x 2 x 2 x 3

HCF = 2 x 3 = 6

extra

f) 100, 150 and 200

2	100
2	50
5	25
5	5
	1

2	150
3	75
5	25
5	5
	1

2	200
2	100
2	50
5	25
5	5
	1

100 = 2 x 2 x 5 x 5

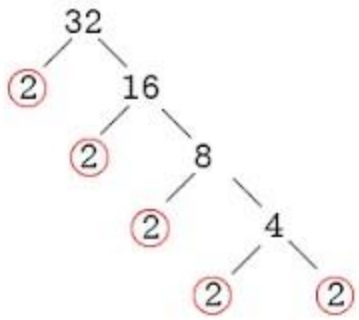
150 = 2 x 3 x 5 x 5

200 = 2 x 2 x 2 x 5 x 5

HCF = 2 x 5 x 5 = 50.

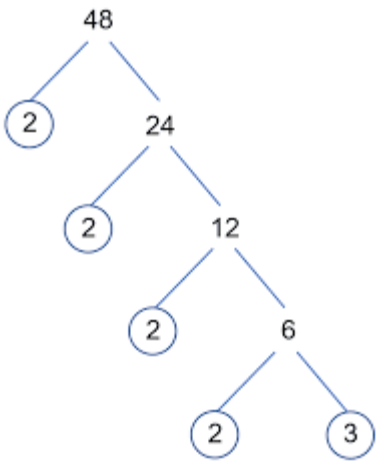
- **Make the factor tree by prime factorization method**

a) 32



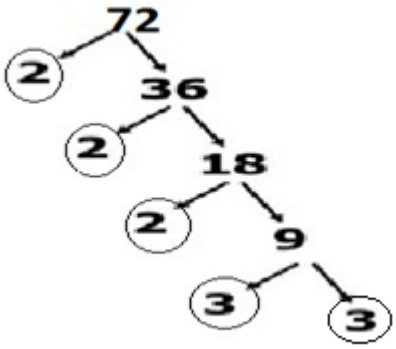
32 = 2x2x2x2x2

b) 48



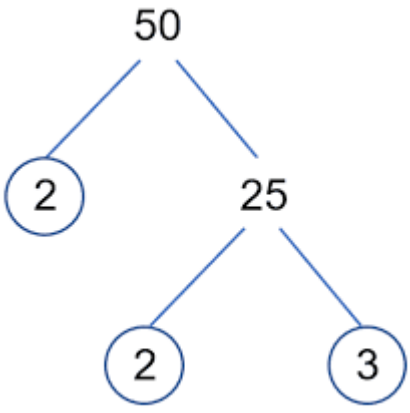
48 = 2x2x2x2x3

c) 72



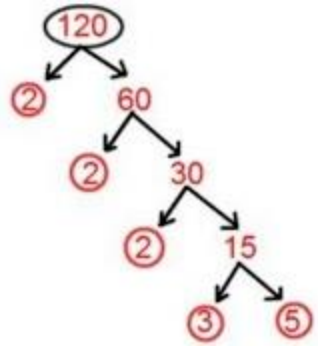
72 = 2x2x2x3x3

d) 50



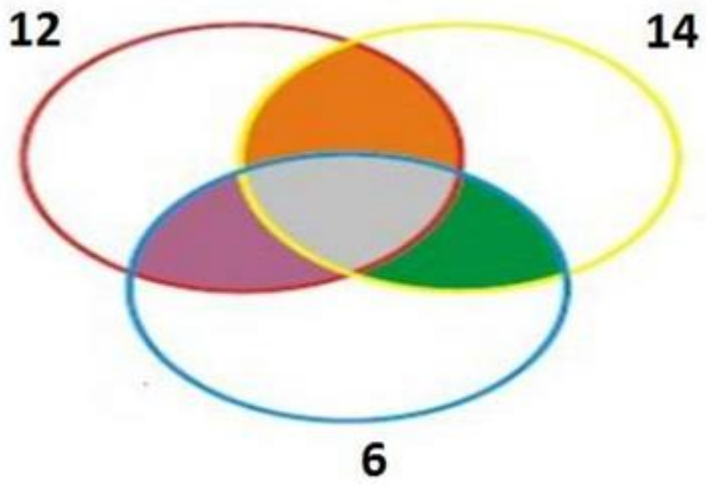
50 = 2x2x3

e) 120



120 = 2x2x2x3x5

- **Activity**
  (See text book page no 96)



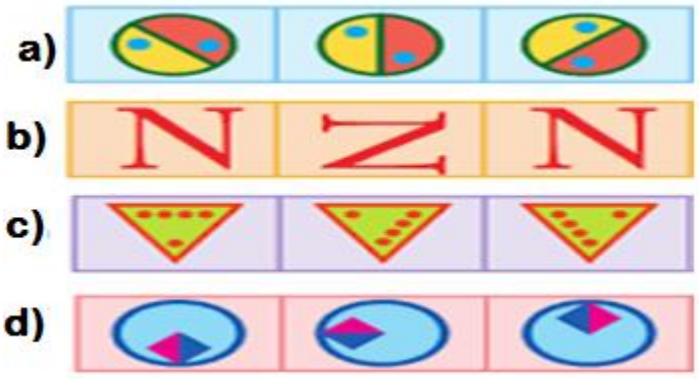
Chapter– 7

Can You See The Pattern?

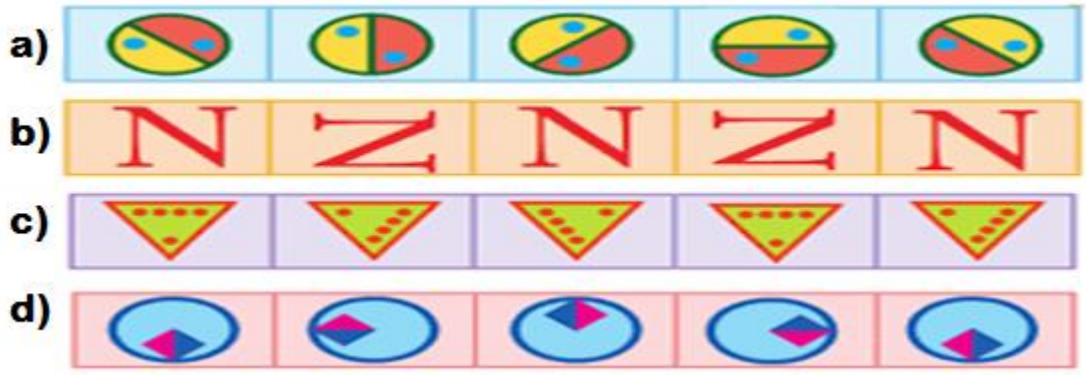
Key points to remember

- Complete the pattern
- Numbers and numbers.
- Magic Hexagon
- Magic square
- Activity

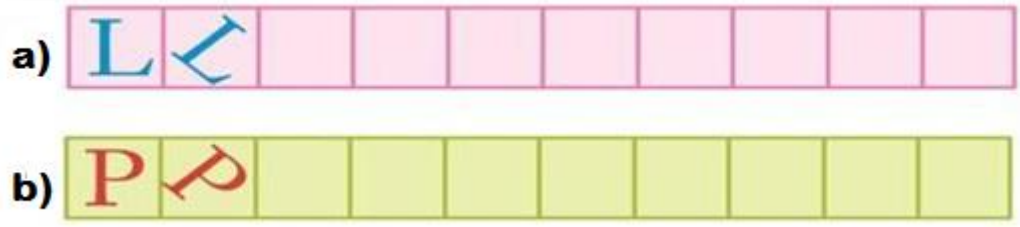
❖ **Complete the pattern.(Do it in text book page no.100 and 101)**



Answer:



❖ **Using the same rule take it forward till you get back to what you started with.**



Answer

a) 

b) 

❖ Numbers and numbers.

- **Fill in the blanks:**

a) 24 + **19** + 37 = 37 + 24 +19

b) 215 +120 + 600 =600 + **215** + 120

c) 14 + **34** + **20** = 34 + 14 + 20

d) **80** + 42 + **65** = 65 + **42** + 80

e) 200 + 300 + **400** = **200** + **300** + 400

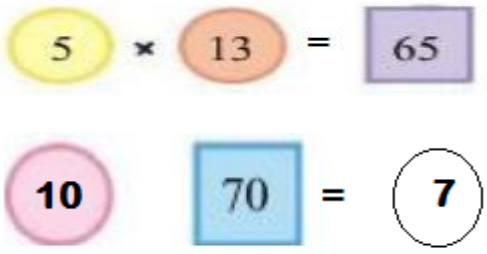
f) 48 × 13 = 13 × **48**

g) **64** × 55 = 55 × 64

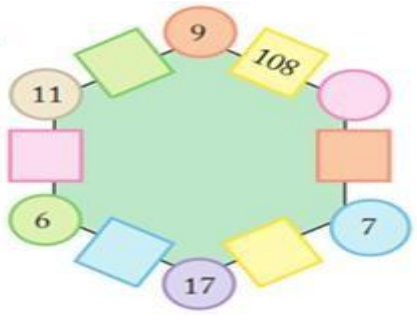
h) 255 × 15 × 4 = **15** × **2**55 × 4

i) 14 × **70** × 5 =14 × 5 × 70

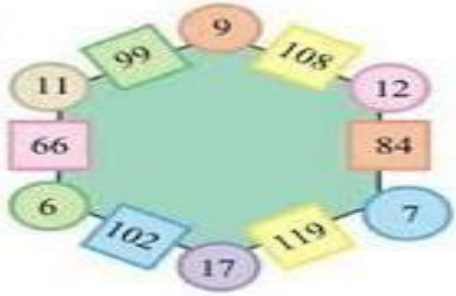
- **Magic Hexagon.**



a)

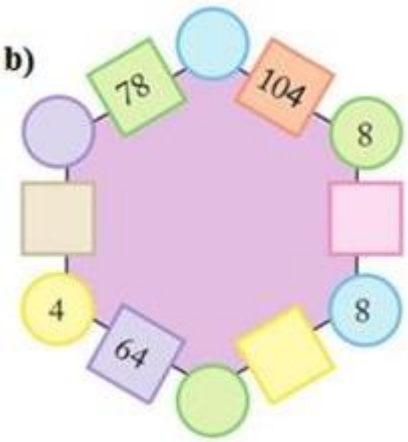


Solution–



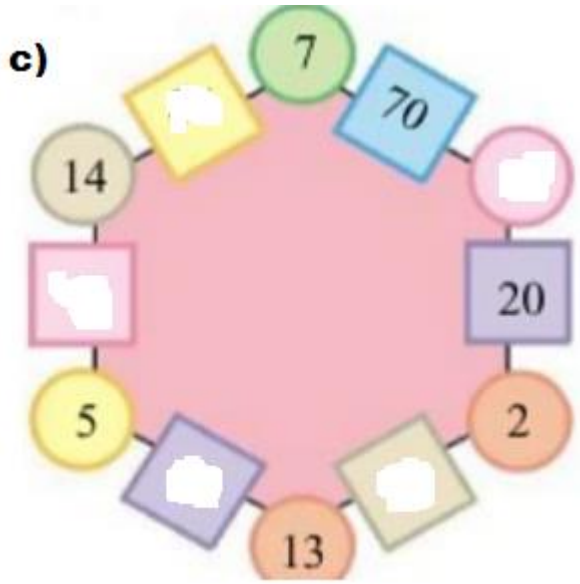
108 ÷9 =12
12 ×7 =84
7 ×17 =119
17 ×6 =102
6 ×11 =66
11 ×9 =99

b)

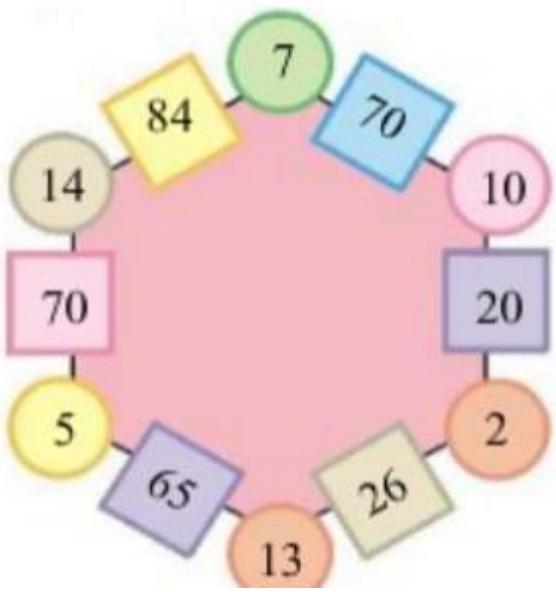


Solution -

104÷8 =13
78÷13=6
6×4=24
64÷4=16
16 ×8=128
8×8=64



Solution – (Hw)



7 x 14 = 98
14 x 5 = 70
5 x 13 = 65
13 x 2 = 26
20 ÷ 2 = 10

❖ Magic square

1. Fill this square using all the numbers from 46 to 54.
   Rule: The total of each line is 150.

		49
46		
	52	**47**

Solution–

150 – (49 +47) =54

150 – (52 +47) =51

150 – (51 +46) =53

150 – (53+49) =48

150 – (48+52) =50

53	**48**	49
46	**50**	**54**
51	52	47

2. Fill this square using all the numbers from 6 to14.
   Rule: The total of each line is 30.

13		**11**
		7
	10	

Solution–

30 – (11+7) =12

30 – (12 +10) = 8

30 – (8 +13) =9

30 – (13 +11) = 6

30 – (6+10) =14

13	**6**	11
9	**14**	7
8	10	**12**

3. Fill this square using all the numbers from 21 to 29.

Rule: The total of each line is 75.

		28
	25	
22	**27**	

Solution– (HW)

75 – (25 +27) =23
75 – (23 +28) =24
75 – (24 +22) =29
75 – (29 +25) =21
75 – (28 +21) =26

24	**23**	28
29	25	**21**
22	27	26

Activity
(Do it in text book page no 111)