

CHAPTER -10

PLAY WITH PATTERNS

2MARK QUESTIONS

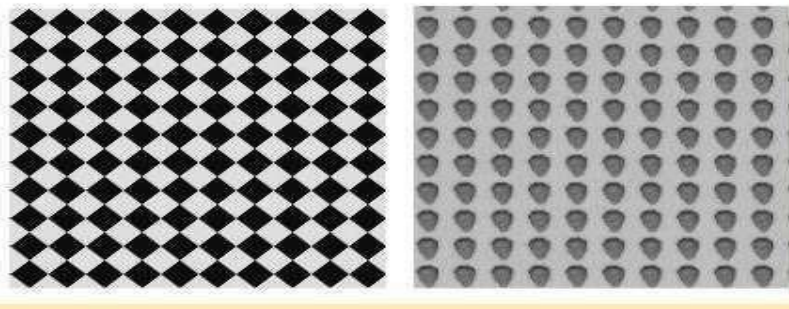
1Q. Look around you and list three things in which you find some pattern.

Ans: The three things around me that are in patterns are as follows:

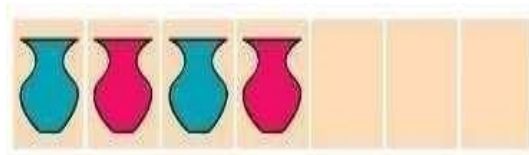
- The tiles in the washroom
- The window grills
- The wooden door of the class.

2Q. Draw some patterns which you have found around yourself.

Ans:



3Q. Given below are some patterns. Figure out the rule for each and continue the pattern.



a)

Ans: The pattern followed in this picture:

pink pots and blue pots are

kept alternately in series.



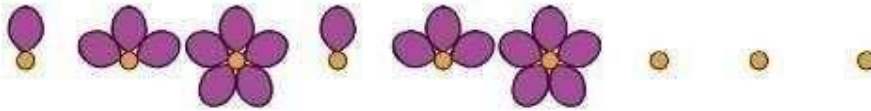
b)



Ans: The pattern which is followed in this picture is that B is written after

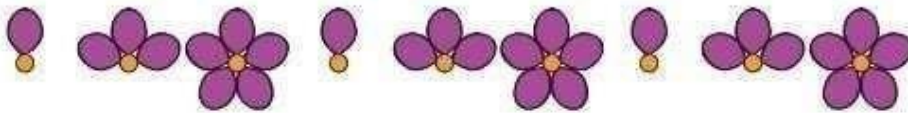


double A.



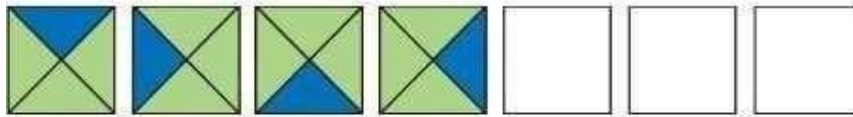
c)

Ans: The pattern followed in this picture: a flower with an odd number of

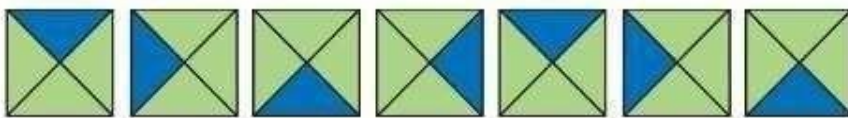


petals from 1 to 5 is repeated.

d)



Ans: The pattern followed in this picture: Out of four triangles of a square,

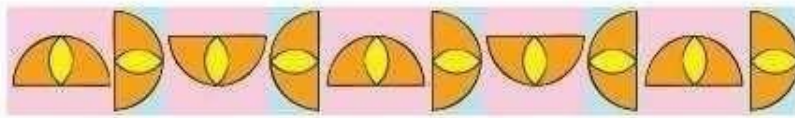


one triangle of blue colour is rotated anti-clockwise.

e)



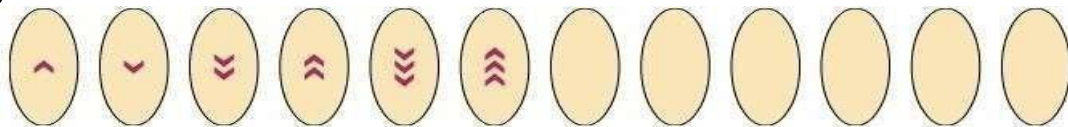
Ans: The pattern followed in this picture: The given pattern of a semicircle is rotated 90degree or perpendicular in a clockwise direction.



f) Morning, afternoon, evening, night, morning, _

Ans: The pattern followed here: A day is divided into 4 durations depending upon the position of the sun. And it is repeated again and again. Morning, afternoon, evening, night, morning, afternoon, evening, night.

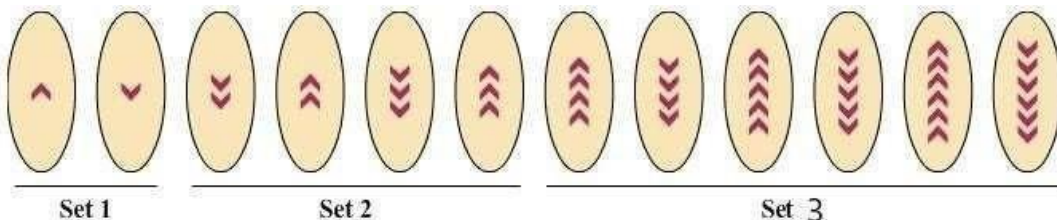
4Q. Growing Patterns:



Can you see the rule and continue the pattern?

Ans: It can be observed that in the 1st image, there is only 1 arrow head pointing in the upward direction. While 2nd image, there is only 1 arrow head and is pointing in the downward direction. Similarly, in the 3rd image, there are only 2 arrow heads pointing in the upward direction. In the 4th image, there are only arrow heads pointing in the downward direction.

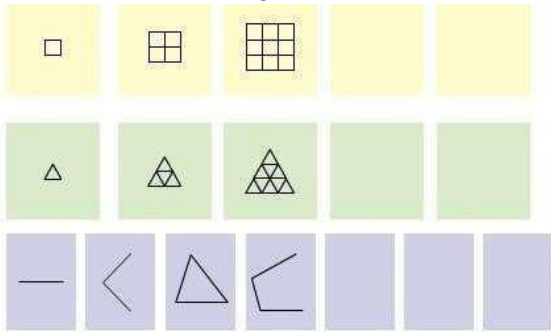
As above. the arrowheads become 3rd in the fifth and 6th image, pointing upward and downward alternately. So, in the 7th and 8th image of the pattern,



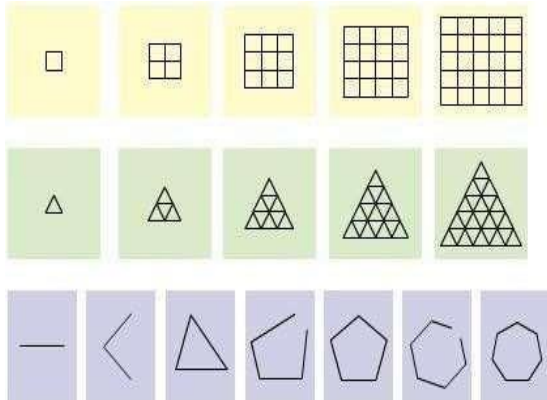
there will be 44arrowheads, pointing upward and downward alternately.

5Q. Try these also

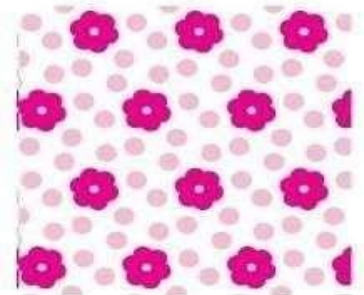
MATHS



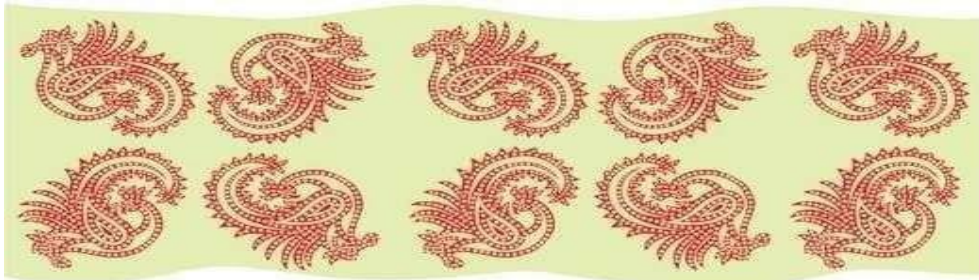
Ans:



6Q.My Own Patterns: Here is your space to make your own patterns: Ans:
Someof the patterns are:



Ask your friends to continue the patterns made by you.



5 MARK QUESTIONS

1Q. Number Patterns:

We have made some patterns with pictures. We can make patterns with number too. Like 21, 41, 61, 81, 101, 121

You know the next number, don't you? This is a growing pattern. It can go on and on.

21, 41, 61, 81, 101, 121, 141, 161...

Ans: In the above number pattern, the series is growing by 20.

21, 41, 61, 81, 101, 121, 141, 161, 181, 201, 221, 241

2Q. Look at these growing patterns. Find out what to add to each number to get the next one:

a. 1, 3, 6, 10, _____, _____, _____ **Ans;** Here the first number is 1. The pattern can be written as:

1, 2, 3, 3, 6, 6, 10, 10, 15, 15, 21, 21, 28, 28, 36, 36, 45, 45

Therefore, the number is 1, 3, 6, 10, 15, 21, 28, 36, 45.

b. 0, 2, 6, 12, _____, _____, _____, _____

Ans: In this series, the pattern can be written as:

0, 2, 2, 4, 6, 6, 12, 12, 20, 20, 30, 30, 42, 42, 56, 56, 72, 72

The new series is as follows:

0, 2, 6, 12, 20, 30, 42, 56, 72

c. 1,3,7,13,_,_,_,_,_

Ans: Following sequence is observed in this pattern:

2 13,3 36,6 511,11 7 18

The number which is added in each step is growing by 2 .Hence the pattern is asfollows: 1, 3, 7, 13, 21, 31, 43, 57, 73 .

d. 2,3,6,11,18,_,_,_,_

Ans: In this the following sequence is observed in this pattern:

□ □ □ □

3Q.Amrita and Paritosh are writing secret messages:
 3W3H3E3R3E 3A3R3E 3Y3O3U

3 I3 N 3T3H3E 3C3A3N3T3E3E3N

Can you tell what they are trying to say?

Ans.Following are the secret messages:

Where are you?

In the canteen

4Q.There are two secret messages. Look at the patterns and find the hidden sentences. 1I2L2O4V5E6Y7O8U

Ans: The message is:

I LOVE YOU

11Q.Even and Odd Number Patterns

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

Half these numbers are in yellow. What patterns do you see in these numbers? Continue the same pattern and fill in the blank

96, 98, 100, 102, 104, 106, 108, 110, 112, 114

How far can you continue this pattern?

Ans. This pattern can be continued endlessly. These numbers have a special name. They are called even numbers.

a. Do any of these even numbers end with 3 or 5?

Ans. None of the even numbers end with 3 or 5.

b. What do even numbers end with?

Ans. Even numbers end with 2, 4, 6, 8 or 10.

c. Look at the pattern of numbers in blue. Continue the pattern and fill in the blanks.

Ans. 99, 101, 103, 105, 107, 109, 111, 113, 115

d. What do the numbers in blue end with?

Ans. The numbers in blue end with 1, 3, 5, 7 or 9

e. Write all odd numbers between 400 and 410 Ans. 401, 403, 405, 407, 409.

f. Write all even numbers between \$155\$ and \$165\$

Ans. 156, 158, 160, 162, 164

g. If we add 1 to any odd number we get an _____ (even/odd) number. Ans. If we add 1 to any odd number we get an even number.

h. If we add 1 to any even number we get an _____ (even/odd) number. Ans. If we add 1 to any even number we get an odd number.

i. What do you get if you add an even number to an odd number?

Ans. Odd number.

5Q. Adil has to arrange this list so that the names starting with A come first and then come those with B, C, D and so on. Number these names in the order in which they will come.

Sharada, Mahadevan, Tsering, Adil, Gurinder, Baichung, Harsha, Raja, NarayanKavita, Warsha, Elvis, Jalaj

Ans:

Sharada	11	Mahadevan	8	Tsering	12	Adil	1
Gurinder	4	Baichung	2	Harsha	5	Raja	10
Narayan	9	Kavita	7	Warsha	13	Elvis	3
Jalaj	6						

13Q. Which of the following names have the same pattern?

Harsh, Anna, Kanak, Munna, Ongbi

Ans: Anna, Kanak and Munna are the names with the same pattern because all of them have repeated letters twice in these.