

SESSION : 14
CLASS : IV
SUBJECT : MATHEMATICS
CHAPTER NUMBER : 18
CHAPTER NAME : PATTERNS
SUBTOPIC : PROGRESSIVE PATTERNS,
PROGRESSIVE GEOMETRICAL
PATTERNS AND PROGRESSIVE
NUMBER PATTERNS, EX-18 B & C

CHANGING YOUR TOMORROW

LEARNING OBJECTIVE

- Enable the students to understand about the progressive geometrical patterns and progressive number patterns.

PROGRESSIVE PATTERNS

The patterns which can go on and on, without coming to an end are called progressive patterns. Such **patterns are infinite**.

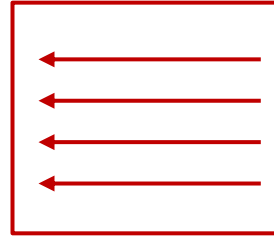
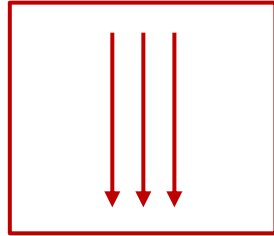
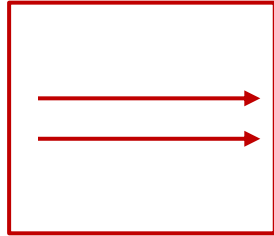
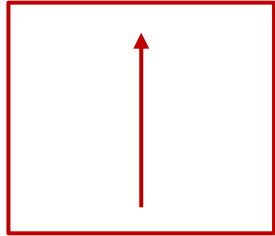


PROGRESSIVE PATTERNS

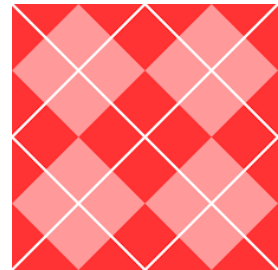
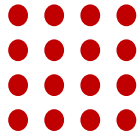
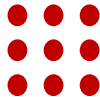
EXAMPLE - 1

What will be the next two unit of the pattern given below?

(a)



(b)



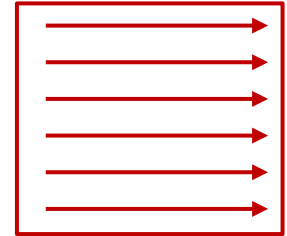
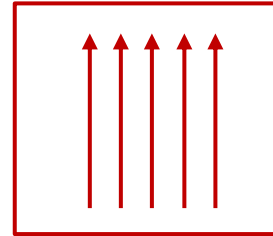
PROGRESSIVE PATTERNS

EXAMPLE - 1

(a)

In pattern (a), we are **increasing the arrow** one by one. Also, the arrow is moving in a **clockwise** direction.

Therefore, the next 2 unit of the pattern will be



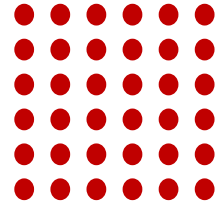
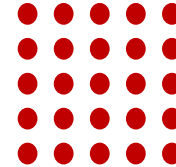
PROGRESSIVE PATTERNS

EXAMPLE - 1

(b)

In pattern (b), the number of dots are increasing **one by one in the bottom row**. We see that the number of rows and **columns is also increasing by 1** in the subsequent units.

So, the next unit will have **5 rows** and **5 columns** of **5 dots** each. Similarly, the following unit will have **6 rows** and 6 columns of **6 dots** each and so on.

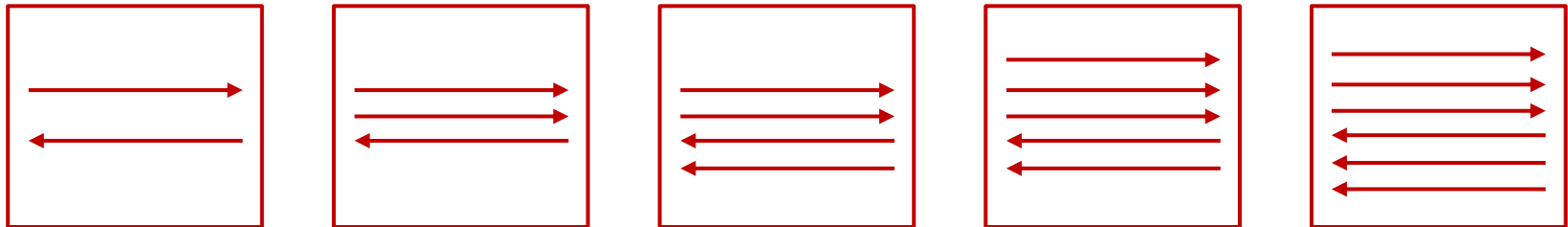


PROGRESSIVE PATTERNS

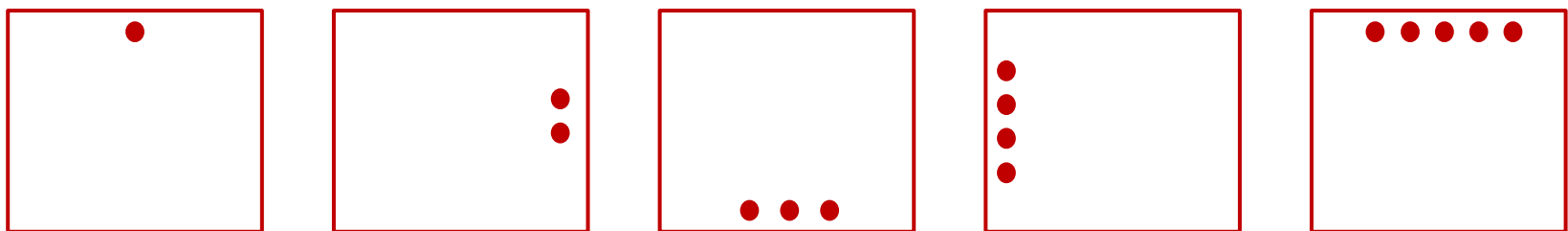
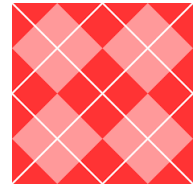
EXERCISE – 18(B)

1. Observe the given pattern and complete their last figures.

(a)



(b)

PROGRESSIVE NUMBER PATTERNS

Arrangement of numbers according to a rule is called a **number pattern**.



PROGRESSIVE NUMBER PATTERNS

EXAMPLE - 1

Identify the patterns and write the next two numbers.

(a) 7, 10, 13, 16, 19, _____, _____.

(b) 80, 78, 76, 74, 72, _____, _____.

(c) 4, 7, 13, 25, 49, _____, _____.



PROGRESSIVE NUMBER PATTERNS

EXAMPLE - 1

(a)

Each term of the given pattern is obtained by **adding 3** to the **previous number**. So the next two numbers are

$$19 + 3 = \mathbf{22} ; 22 + 3 = \mathbf{25}$$

Thus the pattern is 7, 10, 13, 16, 19, **22, 25**



PROGRESSIVE NUMBER PATTERNS

EXAMPLE - 1

(b)

Each term of the given pattern is obtained by **subtracting 2** from the **previous term**. So the next two terms are :

$$72 - 2 = \mathbf{70} ; 70 - 2 = \mathbf{68}$$

Thus the pattern is 80, 78, 76, 74, 72, **70, 68**



PROGRESSIVE NUMBER PATTERNS

EXAMPLE - 1

(c)

Each term of the given pattern is obtained by **multiplying the previous term by 2 and then subtracting 1 from the product.**

$$4 \times 2 - 1 = 7$$

$$7 \times 2 - 1 = 13$$

$$13 \times 2 - 1 = 25$$

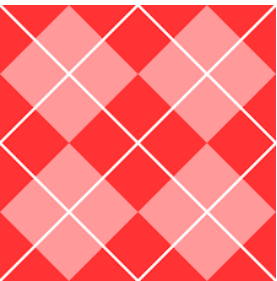
$$25 \times 2 - 1 = 49$$

So the next two terms are

$$49 \times 2 - 1 = 97$$

$$97 \times 2 - 1 = 193$$

Thus the pattern is 4, 7, 13, 49, **97, 193**



PROGRESSIVE NUMBER PATTERNS

EXERCISE – 18(C)

Identify the patterns and write the next two terms.

(a) 1, 5, 9, 13, 17, 21, 25,

.

(c) 60, 55, 50, 45, 40, 35,

.

(e) 64, 32, 16, 8, 4, 2.

(g) 2, 5, 11, 23, 47, 95.

(b) 2, 5, 8, 11, 14, 17, 20,

.

(d) 56, 50, 44, 38, 32, 26,

.

(f) 4, 6, 10, 18, 34, 66.

(h) 1, 3, 7, 15, 31, 63.

HOME ASSIGNMENT:

- **Complete Exercise – 18 C in your note book.**

LEARNING OUTCOME:

Students are able to understand about the progressive geometrical patterns nad progressive number patterns..

THANKING YOU
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