BCM SCHOOL, CHANDIGARH ROAD

A Senior Secondary School of BCM Foundation

Affiliated To CBSE, NEW DELHI

Class VI (Mathematics) **Revision Assignment** **April,2025**

Chapter-1(Patterns In Mathematics)

MCQ-

1. Which of the following statements is TRUE according to the text?

(a) There is a mathematical pattern in Body Mass Index (BMI).

(b) There is no mathematical pattern in a calendar.

(c) 1, 4, 9, 16, 25, ... is a square number sequence.

(d) 1, 3, 6, 9, 12, 15, ... is a triangular number sequence.

2. The sequence 1, 3, 6, 10, 15, ... is identified as what type of number sequence in the text?

(a) Square number sequence

(b) Triangular number sequence

(c) Even number sequence

(d) Odd number sequence

3. The sequence 1, 2, 3, 5, 8, 13, ... is matched with which type of sequence?

(a) Even number sequence

(b) Palindromic number

(c) Power of 3

(d) Virhanaka numbers

4. The branch of mathematics that studies patterns in numbers is called:

(a) Algebra **(b)** Geometry

(c) Number theory **(d)** Calculus

5. The sequence 1, 7, 19, 37, 61, ... are examples of:

(a) Square numbers **(b)**Triangular numbers

(c) Hexagonal number **(d)** Fibonacci numbers

One Word Answers-

6. Write the name of the polygon with 8 sides.

7. How many corners are there in a decagon.

8. If you start with the number 2 and keep adding 2, what sequence are you creating?

Fill in the blanks –

9. There are _____ vertices/corners in a pentagon.

10. Polygon with 6 sides is called as _____.

Assertion-Reason Based Questions:

a) Both A and R are true and R is the correct explanation of A

b) Both A and R are true but R is not the correct explanation of A

c) A is true but R is false

d) A is false but R is true

11. Assertion (A): Patterns in mathematics are only found in number sequences.

Reason (R): Patterns can also be observed in shapes and their arrangements.

12. Assertion (A): It would have been possible for humans to go to the Moon without Mathematics also.

Reason (R): In mathematics we search patterns in nature and reason behind those patterns.

Subjective Questions:

13. How is math used in GPS technology?

14. What are "Virahanka numbers"?

15. Visualise the square number 64.

16. Identify the patterns and write the next three numbers to complete the given patterns.

a) 1,3,6,10,15, ___, ___, ___.

b) 1,4,9,16,25, ___, ___, ___.

c) 1,8,27,64,125, ___, ___, ___.

17. Represent pictorially:

a) 61 as hexagonal number.

b) 28 as triangular number.

18. Explain the pattern rule for the given sequences:

a) 1, 5, 25, 125, 625, ...

b) 3,12,48,192, ……

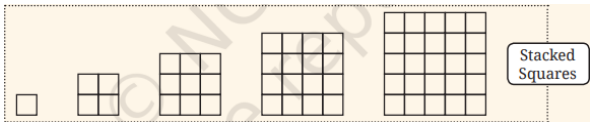
19. Analyse the pattern and predict the next shape:

a) ◎, △, ◎, △, ___

b) ■, ◯, △, ■, ◯, ___

c) ◯, ◯, ◯, △, △, ◯, ◯, ◯, △, △, ___

20. Describe the visual pattern observed in the "Stacked Squares" section.



Case Based Questions:

21. One day during math's period, the teacher organised a game based on number theory using number cards. She prepared 50 numbered cards numbering from 1 to 50 and asked the class to put these cards in 4 boxes, labelled as triangular numbers, square numbers, hexagonal numbers and cube numbers.

Based on the above information, answer the following questions.

(a) If Rohan picks the number card of 25, then in which box will he drop the card?

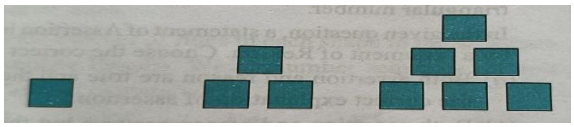
(b) If Riya wants to choose the highest hexagonal number, which number will she pick up?

(c) If Soham chooses the card of number which is both triangular and square number, then which number card has he chosen?

(d) Can a number card be placed in all the four boxes? If yes, identify the number.

22. Rima and Diva are playing with square counters.

Rima arranges her counters as follows:



Diva arranges the counters as follows:

Based on the above information, answer the following questions:

(a) What are the number patterns Rima's arrangement are showing?

(b) What are the number patterns Diya's arrangement are showing?

(c) In Rima's arrangement, what will be her next two arrangements if she follows the same pattern?

(d) What is Diya's next arrangement with counters if she follows the same pattern?

(e) If Diya were to create a fourth arrangement following her pattern, how many more square counters would she need to add to her third arrangement?

Answer Key-

1.(c) 2.(b) 3.(d)

4.(c) 5.(c) 6. octagon

7. 10 8. Even 9. 5

10. hexagon 11. (d) 12. (d)

16. a) 21,28,36 b) 36,49,64 c) 216,343,512

18. a) Multiples of 5

b) Previous term multiplied by 4

21. a) Square b) 37 c) 36 d) 1

22. (a) Triangular numbers

(b) Square numbers (c) draw them

(d) draw them (e) 4 x 4 =16