Brain International School

Vikas Puri, New Delhi

ASSIGNMENT NO. 1

SUBJECT: MATHEMATICS CLASS-VI APRIL'2025

PATTERNS IN MATHEMATICS

Q1) Write the next two triangular numbers in the sequence 1,3,6,10,15, ___, ___.

Q2) Is 45 a triangular number? Justify.

Q3) 36 is both a square number and a triangular number. Justify.

Q4) Sia has made a pattern by starting at 37 and adding 15 each time. Write the first four terms of the pattern.

Q5) Classify the following numbers as 'triangular', 'cubic' or 'hexagonal': 19, 64, 37, 45 and 27.

Q6) What number pattern will you get by adding natural numbers up and then down? Justify.

Q7) Draw a stacked square with 36 small squares.

Q8) Can 25 small triangles be stacked to form a bigger equilateral triangle?

Q9) Draw a complete graph having six vertices. How many edges does it have?

Q10) The number of line segments at different stages of Koch Snowflake are 3, 12, 48, ___, ___. Complete the sequence and justify your answer.

Q11) Which of the following statements are true or false? Justify.

a) 1,8,27,64,125 - - - - - - forms a sequence of powers of 3.

b) 1, 2, 3, 5, 8, 13, 21, - - - - - are known as Virahānka numbers.

c) 1, 3, 6, 10, 15, - - - - - are called triangular numbers.

d) In the naming of a complete graph, the number written after the letter K shows the number of line segments in the graph.

Q12) Assertion – Reason based question:

Assertion: 1 + 2 + 3 + 4 + 3 + 2 + 1 is a square number.

Reason: We get the square numbers by adding the counting numbers up and then down.

(a) Both Assertion and Reason are correct and Reason is the correct explanation of Assertion.
(b) Both Assertion and Reason are correct, but Reason is not the correct explanation of Assertion.
(c) Assertion is correct but Reason is incorrect.
(d) Assertion is incorrect but Reason is correct.

LINES AND ANGLES

Q1) Classify the following as Parallel, Intersecting, Perpendicular Pines :

Q2) Draw and label an angle with arms *BC* and *AB*.

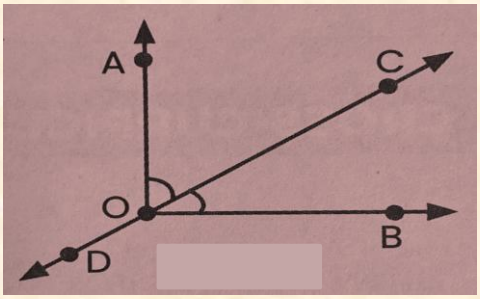
Q3) Fill in the blanks:

a) The lines formed by the frames at the centre of the window are _____ to each other.

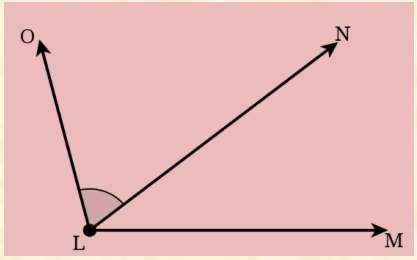
b) The lines shown to indicate the parking spaces are _____ to each other.

Q4)

In the given figure, name	
a)	Five points
b)	A line
c)	Four rays
d)	Two Line segments
e)	Three angles



Q5) Name all the angles from the given figure and determine which angle is greater ∠MLO or ∠NLO. Justify your answer.



Q6) Assertion – Reason based question:

Assertion: Perpendicular lines can also be called as intersecting lines.

Reason: When two lines intersect at 90°, they are called as perpendicular lines.

(a) Both Assertion and Reason are correct and Reason is the correct explanation of Assertion.

(b) Both Assertion and Reason are correct, but Reason is not the correct explanation of Assertion.

(c) Assertion is correct but Reason is incorrect.

(d) Assertion is incorrect but Reason is correct.