# Vedic Mathematics, Science & Technology Teacher Course

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## 3-SPACE & 3-SPACE CONTENTS

This day the course focus is upon '3-space & 3-space contents'. It four folds aspects being taken up are as follows:

41. Space and space contents
42. Dynamic state solids within 3-space
43. Transition gaps values sequences of
    Linear order and spatial order synthesis values
44. Linear order and its negative linear order

The values being covered are to be taught as lessons numbers 41 to 44 to the students of 3-space Vedic Mathematics, Science & Technology.

## LESSON-41

## SPACE AND SPACE CONTENTS

1. Space is the 5th element.
2. First four elements are Earth, Water, Fire, Air.
3. These five elements 'Earth, Water, Fire, Air and Space' are the designated as punch Maha-bhut accepts transcendental code value 40.
4. The number value 40 is parallel to 40 coordinate fixations of creative boundary of transcendental domain

(4-space) of ten components as boundary of transcendental domain.

5. Formulation 'Akash' accepts transcendental code value '8'.
6. One may have a pause here and to take note that 40 = (5 x 8).
7. It would also be relevant to take note that formulation '*Ek*' accepts transcendental code value '8'.
8. 5-space accepts a dimensional frame of 5 solid dimensions (3-space in the role of dimensions of 5-space).
9. Formulation '*Tray*' as well accepts transcendental code value '8'.
10. Formulation 'Punch' accepts transcendental code value '15'.
11. One may have a pause here and to take note that the dimensional value of 5 solid dimensions (3-space as dimensions) leads to (3 x 5) = 15 values.
12. It would further be relevant to take note that 1-space play the role of dimension of 3-space, 2-space play the role of dimensions of 4-space, 3-space play the role of dimension of 5-space, 4-space play the role of dimensions of 6-space.
13. One may have a pause here and to take note that linear order four folds manifestation layer (1, 2, 3, 4) of hypercube 3 is of a summation value (1+2+3+4) = 10.
14. Further as that solid order manifestation layer (3+4+5+6) of hypercube 5 leads to summation value (3+4+5+6) = 18
15. It is this relationship of hypercube 3 with hypercube 5 which deserves to be comprehended well to appreciate dimensionalization of space.

16. One of the basic features of this dimensionalization is that space as space content sequentially unfolds itself as a range of hyper cubes of simultaneously manifestation of 4 consecutive dimensional spaces contents illustratively 1-space (as 1-space contents), 2-space (as 2-space contents), 3-space (as 3-space contents), and 4-space (as 4-space contents) simultaneously manifests as hypercube 3 with 1-space contents playing the role of linear dimension, 2-space contents playing the role of a spatial boundary, 3-space contents playing the role of a solid domain and 4-space contents playing the role of origin fold of hypercube 3.

17. In general hypercube N is a set up of a four folds manifestation layer (N-2) space being dimension fold,(N-1)space being boundary fold, (N-space ) being domain fold , (N+1) space being its origin fold.

18. One shall sit comfortably and permit the transcending mind to glimpse space as a space content unfolding itself at creative boundary of transcendental domain as a manifested range of hypercube of 4 folds dimensional space contents.

19. One may further have a pause here and to take note that one of the basic feature of dimensional space (content) is that it distinctively place, at a time the role of a distinct fold of manifested creations as of hypercube formats.

20. It is this feature of space content deserves to be comprehended well.

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# LESSON-42

## DYNAMIC STATE SOLIDS WITHIN 3-SPACE

1. Ganita Sutra 11 *'Vyasti-samashti'* conceptually is the mathematical domain of 'part as a whole'. This amounts to acceptance of complete structure of a space domain within every constitutions of space domain.
2. Broadly it amounts to manifestation of a cube within a cube.
3. The chase feature of this domain is the dynamic state solid within 3-space.
4. Like that, a step head is going to be a dynamic state four space domain within 4-space itself.
5. In general dynamic state hyper cube n within hyper cube n domain is the general feature of Ganita Sutra 11.
6. Let us a paused here and to sequentially chased dynamic state solid within 3-space.
7. Step wise, this chase would be following feature:-
   <u>Step 1:-</u> Let cube is the representative regular body of 3-space. It has such accepts value '3'.
   <u>Step 2</u>:- The motion of cube along its axis (of linear order), will add value '1' and their by there would be a reach a value $1+3 = 4$.
   <u>Step 3:-</u> 3 dimensional frame is set up of 3 linear dimensions and such this dimensional frame contribute value $3\text{x}1 = 3$. With this contribution, the value comes to be $1+3+1\text{x}3 = 7$.
   <u>Step 4:-</u> The motion of solid would be towards all the

three axes and their by the total value would come to be $3 \times 7 = 21$.

8. One may have pause here and take note that value 21 permits reorganization $21 = 1+2+3+4+5+6$.

9. A step head, as the cube is with a cube, as such it shall acquiring addition value '3', with which the grand summation value of a dynamic state solid with a cube will take us to $21+3 = 24$.

10. One may have pause here and take note that value 24 accepts re-organization as $24 = 3 \times 8$, which is parallel to 24 coordinate of solid boundary of 8 component of hypercube 4.

11. Still further value $24 = 6 \times 4$ will bring us face to face with the dimensional value of creative dimensional frame of self-referral domain.

12. One may have pause here and take note that the split of 3-space into 8 octants amount to release of 4 space at the centre of the cube and there would be transcendence of 12 edged cube which will manifest and additional edge 13 edge with an four space.

13. One may have pause here and take note that within 4-space, solid boundary of eight component will accepts coordination in terms of $8 \times 4 = 32$ coordination and same together with 13 edges setup of the cube with an four space will make value $32+13 = 45$.

14. It would be a blissful to take note that $45 = 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9$.

15. It would be a blissful to take note that *MANSARA* scripture of Sathapatya up-Ved enlighten that there are 13 internal Devas and 32 external Devas.

16. It would be a blissful to take note $9 = 3^2$.

17. And $8 = 2^3$.

18. One shall sit comfortably and permit the transcending mind to glimpse and imbibe above features of dynamic state existence within 3-space which result into transition and transformation by transcendence at the origin into 4-space.

19. It is this feature which bring us face to face with the format feature, values and virtues of Triloki (3 spaces simultaneously manifesting within 3-space domain.

20. This 3 fold manifestation is as of interval, square and cube as of sequential steps of single double and the all the three dimensions coming into play.

21. Here it would be a blissful exercise  the internal structure setup of cube accepts a three dimensional frame of 3 spatial dimensions which split 3 space into 8 octants and these octants stands coordinated as solid boundary of spatial order of 4 space.

22. The transition from a dimensional frame of linear dimensional to a dimensional frame of spatial dimensions, bring to focus the mathematics of bridging the gaps of transition from linear order setup to spatial order setup.

23. One may have pause here and take note that linear dimensions synthesized and lead to dimensional synthesis values sequence being: (… -21, -15, -10, -6, -3, -1, 0, 1, 3, 6, 10, 15, 21 …).

24. Spatial dimensions synthesis value sequence comes to be: (… -12, -10, -8, -6, -4, -2, 0, 2, 4, 6, 8, 10, 12 …).

25. It would be a blissful to revisit above pair of synthesis value sequences of linear order dimensions and of spatial order dimensions and to glimpse and imbibe the transition gaps values and reach at the way these gaps

stand bridged.

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# LESSON- 43
# TRANSITION GAPS VALUES SEQUENCES OF LINEAR ORDER AND SPATIAL ORDER SYNTHESIS VALUES

1. Linear order dimensions synthesis values sequence (sequence -1) is as:
   (… -21, -15, -10, -6, -3, -1, 0, 1, 3, 6, 10, 15, 21 …).
2. Spatial order dimensions synthesis value sequence (sequence 2) is as:
   (… -12, -10, -8, -6, -4, -2, 0, 2, 4, 6, 8, 10, 12 …).
3. One may have pause here and take note that the difference of above sequence 1(linear order dimensions synthesis values) and sequence 2 (of spatial order dimensions synthesis values comes to be as under)
   **Sequence 2 – Sequence 1**:
   (… 9, 5, 2, [0, -1, -1, 0, 1, 1, 0,] -2, -5, -9 …).
4. The above differences value sequence (sequence 3) is designated as zero stage differences values sequences.
5. **First stage difference values sequence (sequence four):**
   Sequence four is the sequence of sequential differences of the values of sequence 3.
   Sequence four:
   sequence four comes to be as under:

(… -6, -5, -4, -3, -2, -1, 0, 1, 1, 0, -1, -2, -3, -4, -5, -6 …).

**Second stage value differences sequences (sequence five):**

The sequence of value differences of sequential of sequence four is designated as sequential five.

Sequence five:

Sequence five is values as under:

(… 1, 1, 1, 1, 1, 1, 0, -1, -1, -1, -1, -1, -1, …).

**Third stage value difference sequence (sequence 6):**

Sequence six is the sequence of differences values of constitutive values of sequence 5.

Sequence six:

sequence six is of values as under:

(… 0, 0, 0, [0, -1, -1, 0,] 0, 0, 0 …).

**Fourth stage value difference sequence (sequence 7):**

Sequence 7 is the sequence of difference of constitutive value of sequence 6.

Sequence seven:

Sequence 7 is of value as follow:

(… 0, 0, 0, [0, -1, 0, 1, 0,] 0, 0, 0 …).

6. One may have pause here and take note that the chain of sequence of differences of constitutive values of given sequence leads to another sequence.

7. In this series /chain of sequence of difference of values, from sequence 6 onwards, the central values form a group and another side the central group of values, theirs remain is equal values.

8. It is this feature which deserved to be comprehended well.
9. One may have pause here and take note that the central group of values constitutes a range of object image setup as if the centre of the central group of values is the placement of a mirror and first of the range is the reflection image of the second of the range.
10. One shall sit comfortably and permit the transcending mind to glimpse and imbibe format feature and value of this phenomenon.

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# LESSON-44

## LINEAR ORDER AND ITS NEGATIVE LINEAR ORDER

1. 3-space mathematics is a mathematic of linear order.
2. 3-space domain accepts linear measure.
3. Measure go parallel to sequential progression of dimensions formats.
4. Domain within dimensional frame gets framed and permits coverage for its each constitutes in terms of the measure of its dimensions.
5. In the context of 3-space, the 3-space domain as fixation for its constitution in term of its dimensional measures available for all the dimensions.
6. Dimensional frame of 3-space being a setup of 3 dimensions as such there would be an availability of a linear measure for sequential progression chase along each dimensions. This availability of a  measure with a working rule Ganita Sutra 1: 'one more than before, will

help us exhausted coverage for the entries domain of a linear dimension.

7. One may have pause here and take note that proportionality summitry rule of Ganita Upsutra 1 will help have a chase of dimensional frame of other order as well.

8. One may have further have a paused here and take note that dimensional order itself is a one space domain in the role of dimensions of 3-space domain, as such one space as well having simultaneously play for its own dimensional order, which is a negative linear dimensional order, as and the same dimensions of dimensions of 3-space.

9. One may have further have a paused here and take note that the synthesis of linear dimensions is their because of the availability of dimensions of dimensions.

10. This sustenance of dimension of dimensions that way takes values is equal to value of dimensions to dimensions from the individual values a pair of dimensions getting synthesized.

11. One may have pause here and take note that linear dimension is of value '1'.

12. Pair of linear dimensions yield value '1+1 = 2'.

13. Out of this value, the value of dimension of dimensions is to be accounted for.

14. The value of dimension is dimension '-1'.

15. As such after accounting for '-1' out of value of pair of dimensional '2' there would emerged synthesized value after accounting for a value of dimensional of dimensional as '[(2)-(-1)] = 3.

16. One shall sit comfortably and permit the transcending mind to glimpse and imbibe this synthesis values mathematics.
17. One shall fully comprehend and to completely appreciate the synthesis values mathematics of a pair of dimensions to acquire proper insight and to attain appropriate enlightenment.
18. A step head, a synthesis of triple dimensions will required that third dimension on its synthesis is to account for value equal to dimension of dimensions firstly for the synthesis of third dimensions, with the first dimension and secondly for the synthesis of third dimensions with the second dimensions.
19. One may have further have a paused here and take note that in respect of third dimension there would be accommodated of value twice of the value of dimensions of dimensions. As such the dimensional synthesis mathematics, at the stage would be following working steps:-

    **Step 1** value of synthesis pair of linear dimensions = 3.

    **Step 2** value of third dimensions = 1.

    **Step 3** value of a pair of dimension of dimensions = -2.

    **Step4** dimensional synthesis values for triple dimensions
    $$= 3+1-(-2) = 6.$$
20. One may have pause here and take note that, it is this feature of linear dimensions synthesis values sequence (1, 3, and 6) for single, double and triple dimensions which deserve to be comprehended well.
21. One may have pause here and take note that it brings us face to face with organization of (1, 3, and 6) as (1, 1+2, 1+2+3).

22. It is sequential summation for values triple (1, 2, 3) which deserves to be comprehended well.
23. One may have a paused here and take note that values triple (1, 2, and 3) is unique as that none of these accepts perfect as other than 1.
24. Further as that, the value triple (1, 2, 3) accepts organization as (1, 1+1, 1+1+1).
25. It further goes parallel to availability of single dimensional a pair of dimensional and all the triple dimensional of a three dimensional frame.
26. It would be blissful to sequential chase:

    i.      (0, 0, 0).
    ii.     (1, 1, 1)
    iii.    (1, 1+1, 1+1+1)
    iv.     (1, 2, 3)
    v.      (1, 1+2, 1+2+3)
    vi.     (1, 3, 6)
    vii.    (2-1, 2+1, 2-1+2-0+2+1)
    viii.   (2, 2, 2)
    ix.     (2, 4, 6)
    x.      (2, 6, 10)
    xi.     (1+1, 3+3, 5+5)

27. One shall sit comfortably and permit the transcending mind to glimpse and imbibe above format feature values and to acquire insight and enlightenment about the sequential linear order progression steps measure with the help of Ganita Sutra 1 and Ganita Upsutra 1.

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