

**Vedic Mathematics, Science & Technology
Teacher Course**

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**DIAGONALS AS TRANSLATION PATHS FOR
DIMENSIONAL FRAMES IMBEDDED IN
CORNER POINTS OF CUBE**

This day the course focus is upon 'diagonals as translation paths for dimensional frames imbedded in corner points of cube'. It four folds aspects being taken up are as follows:

- 37. Diagonals as translation paths for dimensional frames imbedded in corner points of cube
- 38. Synthesis of 2, 3 & 4 squares/quarter squares of a square
- 39. Concept of Triloki
- 40. Concept of Trimurti

The values being covered are to be taught as lessons numbers 37 to 40 to the students of 3-space Vedic Mathematics, Science & Technology.

LESSON-37

**CHASE DIAGONALS AS TRANSLATION PATHS
FOR DIMENSIONAL FRAMES IMBEDDED
IN CORNER POINTS OF CUBE**

- 1. In each corner point of a cube is imbedded a 3 dimensional frame of half dimension.
- 2. The orientation of all the $8 \times 3 = 24$ (Half axes) is inward towards centre of the cube.

3. These 8 three dimensional frames (Half dimension) are coordinated in 4 pairs by the 4 internal diagonals of the cube.
4. Diagonal is a translation path for the pair of 3 dimensional frames of half dimensions imbedded in the end points of the diagonals (being the corner points of a cube).
5. The 3 dimensional frames imbedded in the end points of the diagonal translate inward towards centre of the cube along the coordinating diagonal as the translation path.
6. The pair of 3 dimensional frames, while during translation, their origins reach at centre of the cube, this pair of 3 dimensional frames of half dimensions synthesize in to a 3 dimensional frames of full dimensions.
7. This way there get synthesized quadruple number of 3 dimensional frames of full dimensions.
8. These quadruple 3 dimensional frames of full dimensions together with a 3 dimensional frames already available with its origin super imposed upon the centre of the cube, makes a set up of 5 three dimensional frames with their origins at centre of the cube.
9. It would be relevant to take note that at centre of the cube is the seat of 4-space.
10. And 4 space body has 9 versions parallel to 9 geometries range of 4 space of which 5 are non-negative signatures, and at the same time 5 are of non-positive signatures.
11. This makes 10 directional flows parallel to 10 directional translations permissible as along pair of orientations of quadruple diagonals and as along upward

and downward orientation of the 3 dimensional frames with origin at the centre.

12. This feature of 10 directional translation paths and a set up of $3 \times 5 = 15$ dimensional frames available at centre of the cube deserves to be comprehended well.
13. The finding factor ($3/2$) coordinating values pair (10, 15) is parallel to the coordinating factor of the structural contribution by the cubes (27, 18, 12, 8) diminishing as values (9, 6, 4) being of the feature $4 \times 3/2 = 6$, $6 \times 3/2 = 9$.
14. It would be blissful to take note that this is a progression factor for reach from value 2 to value 3 with $3 = 2 \times 3/2$.



LESSON-38

REVIST SYNTHESIS OF 2, 3 & 4 SQUARES/ QUARTER SQUARES OF A SQUARE

1. It would be a blissful exercise to chase sequential synthesis of 2, 3 & 4 squares/quarter squares of a square.
2. It would be relevant to take note that square is a set up of 9 structural components in all of which 4 are corner points, 4 are boundary lines and 1 is surface area.
3. When one square synthesizes with another square, one of the edges gets dispensed with as there being a common edge during the synthetic set up for a pair of squares.
4. This would amount to dispensing with 3 structural components because of edge and its pair of end points

getting super imposed upon another edge and its corner points.

5. This way while the contribution for this synthetic set up by the first square is going to be of 9 structural components, however, in respect of the second square this contribution is to remain only of 6 structural components.
6. The third and fourth quarter squares contribution in the synthetic set up is going to be 6 and 4 structural components respectively. It would be blissful to take note that the values triple (9, 6, and 4) accept coordinating factor (3/2).



LESSON-39

CONCEPT OF TRI-LOKI

1. Tri-Loki literally means *Tri* (three) *Loki* (spaces).
2. Conceptually, Tri-Loki is the Existence Phenomenon of 3-spaces set up within 3-space itself.
3. 3-spaces set up within 3-space, in its manifested form is the existence of interval, square and cube within a cube.
4. It may accepted as a definition as that interval is the manifested body of 1-space, square is the manifested body of 2-space and cube is the manifested body of 3-space.
5. It shall be bringing us face to face with parallel format of 1-space, interval and of one axis of 3 dimensional frame.
6. Further as that, 2-space, square and a pair of axes of 3 dimensional frames are of parallel format features.

7. Still further, 3-space, cube and the set up of all the three dimensions of 3 dimensional frame beings of same format features.
8. One shall sit comfortably and to visit and to revisit set ups of interval within cube and of interval outside the cube.
9. Likewise, one shall visit and revisit the set ups of a square within cube and outside a cube.
10. Interval within a cube shall be a set up of points of 3-space contents.
11. Likewise, the square within a cube as well is going to be a set up of points of 3-space contents.
12. One may have a pause here and to comprehend the distinguish feature of an interval as a set up of points of 1-space content from that of the set up of points of 3-space contents.
13. Likewise, one shall comprehend the distinguish feature of the set up of square being of points of 2-space content form that of the set up of points 3-space contents.
14. It would further be blissful to comprehend the distinguishing feature of outer and inner cube.
15. The outer cube is having enveloping boundary which is a synthetic set up of 8 corner points, 12 edges and 6 surfaces.
16. While on the other hand inner cube is a 3 space content lump within a bigger 3-space content.
17. One shall sit comfortably and permit the transcending mind to fully glimpse and to completely imbibe the above distinguishing features of the set up of interval, square and cube within a cube from those of interval square and cube outside the cube. ■

LESSON-40

CONCEPT OF TRI-MURTI

TRI-MURTI

1. 'Brahma, Shiv and Vishnu' together are designated as 'Tri-Murti).
2. Idols of Brahma, Shiv and Vishnu are of features in manifested forms of 'Brahama, Shiva and Vishnu' respectively.
3. The features of Idols of Brahama, Shiv and Vishnu lead us to the features of values of 4, 5, and 6-space bodies.
4. These 4, 5 and 6-space bodies are in continuity of 1, 2 and 3-space bodies values.
5. Interval, square and cube are the bodies of 1, 2, and 3-space respectively.
6. The bodies of 1, 2, 3, 4, 5 and 6-space are designated as hyper cubes 1, 2, 3, 4, 5 and 6 respectively.
7. Hyper cubes 1, 2 and 3 together make 'Tri-Loki'.
8. Hyper cubes 4, 5 and 6 together make 'Tri-Murti'.

DOMAIN BOUNDARY RATIO

1. Hyper cube 1 (interval) is of a structural set up which accepts domain boundary ratio as $a^1:2b^0$.
2. Hyper cube 2 (square) is of a structural set up which accepts domain boundary ratio as $a^2:4b^1$.
3. Hyper cube 3 (cube) is of a structural set up which accepts domain boundary ratio as $a^3:6b^2$.
4. One may have a pause here and take note that hyper cubes 1, 2 and 3 accept a common domain: boundary formulation $a^N:2Nb^{N-1}$, $N = (1, 2, 3)$.

5. This as such makes $a^N:2Nb^{N-1}$, $N = (1, 2, 3)$ as a domain boundary formulation for Tri-Loki.

DOMAIN BOUNDARY RATIO OF TRI-LOKI

1. It would be blissful to take note that the above formulation $a^N:2Nb^{N-1}$, $N = (4, 5, 6)$ leads to domain boundary ratio of hyper cube 4, hyper cube 5 and for hyper cube 6 as well.
2. This, as such, makes formulation $a^N:2Nb^{N-1}$, as the common domain boundary ratio formulation for Tri-Loki (hyper cube 1, 2, 3) and also for Tri-Murti (hyper cube 4, 5, and 6).

CUBE AS HYPER CUBE 3

1. It would be blissful exercise to glimpse and to imbibe the features of values of the structural set up of cube of hyper cube as a 4 folds manifestation layer (1, 2, 3, 4)/(1-space as dimension, 2-space as boundary, 3-space as domain and 4-space as origin).
2. It would further be blissful to express cube as hyper cube 3 of 4 folds manifestation layer (1, 2, 3, 4) as a spatial case of $(N, N+1, N+2, N+3)$ for $N=1$.

4 FOLDS MANIFESTATION LAYER $(N, N+1, N+2, N+3)$

1. It would be blissful to visit interval as hyper cube 1 of four folds $(N, N+1, N+2, N+3)$ for $N = -1$.
2. It would further be blissful to visit square as hyper cube 2 of four folds $(N, N+1, N+2, N+3)$ for $N = 0$.

3. It would further be blissful to visit cube as hyper cube 3 of four folds ($N, N+1, N+2, N+3$) for $N = 1$.
4. It would further be blissful to visit 4-space body as hyper cube 4 of four folds ($N, N+1, N+2, N+3$) for $N = 2$.
5. It would further be blissful to visit 5-space as hyper cube 5 of four folds ($N, N+1, N+2, N+3$) for $N = 3$.
6. It would further be blissful to visit 6-space as hyper cube 6 of four folds ($N, N+1, N+2, N+3$) for $N = 4$.

DIFFERENT ROLES OF 1-SPACE

1. 1-space plays the role of dimension of 3-space.
2. 1-space also plays the role of boundary of 2-space.
3. 1-space is a domain fold of hyper cube 1.

GLIMPSE AND IMBIBE THE VALUES OF DIFFERENT ROLES OF 2-SPACE

1. Likewise, it would be blissful to glimpse and imbibe the values of different roles of 2-space.
2. 2-space plays the role of boundary of 3-space.
3. 2-space is domain fold of hyper cube 2.
4. 2-space plays the role of dimension of 4-space.

GLIMPSE AND IMBIBE DIFFERENT ROLES OF 3-SPACE

1. Cube is the representative regular body of 3-space.
2. Solids are 3-space bodies.
3. 4-space as a solid boundary.
4. Glimpse and imbibe the role of 3-space as boundary of 4-space. ■