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Topic : **CENTRAL PLACE THEORY**

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INTRODUCTION

- The Central Place Theory is concern with the number, size, spacing and arrangement of central places either urban or rural.
- The central place theory is one such principal which mainly deals with the spatial organization, location and functions of contain areas or place.

- Mark Jefferson first use the term central place in 1931 for a settlement which is necessarily a focus of various activities mostly economic and social in nature.

- The theory was originally published in 1933 by a German geographer Walter Christaller.

- His study is based on the settlement patterns in southern Germany.

- His book central places in southern Germany which is translated form of Die zentralen orte in suddeutschland by Jean gustav fisher (1933)

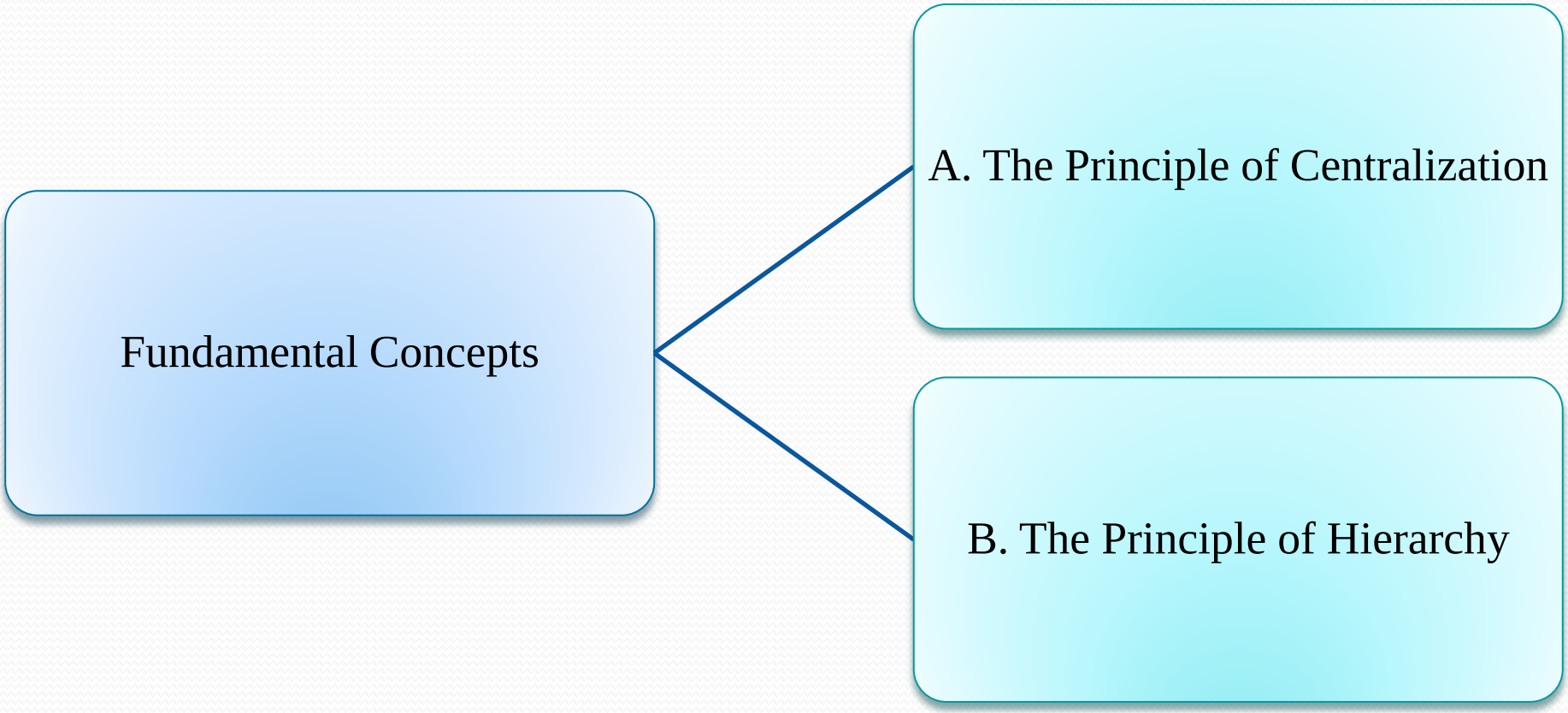
- Walter christaller based his theory on the data obtained form Bavaria (southern Germany).

DEFINITION

"Central Place Theory" is the theory of location , size, nature and spacing of central place clusters and their activities."

……According to Berry

Central place theory is define as the economically optimum location or services of different range and specialization both for the service provider and for the service receiver, it related to all kinds of central functions which serve the population of surrounding zone of influence besides its own population.


Fundamental Concepts
A. The Principle of Centralization
B. The Principle of Hierarchy

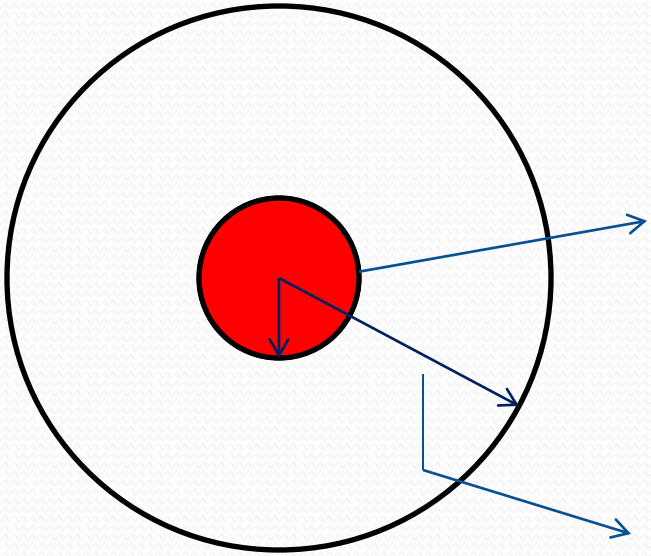
RELATED TERMINOLOGY WITH CENTRAL PLACE THEORY

CENTRAL PLACE	• A central place is defined as a settlement providing services for the population of its hinterland (known as complementary region) supplying it with central goods and services.
ZONE OF INFLUENCE	• The central function which serve the population of a surrounding area
LOW ORDER	• Simple basic service (e.g. grocery stores) are said to be of low order
HIGH ORDER	• Specialized service (e.g. universities) are said to be of high order.

LOW ORDER SETTLEMENT	• Low order settlements which provides low order services.
HIGH ORDER SETTLEMENT	• High order settlement that provide high order services
HIERARCHY OF CENTRAL PLACE	• Small central places and their trade areas, nested within medium size central places and their trade areas, median size central places are nested within a few large central places with in large trade areas.
K-VALUE	• This k value is determined by the no. of settlements of low order places served by a central place or high order place.

THRESHOLD POPULATION

- **It is the minimum number of people needed to be supported by any goods or service outlet established at a central place.**



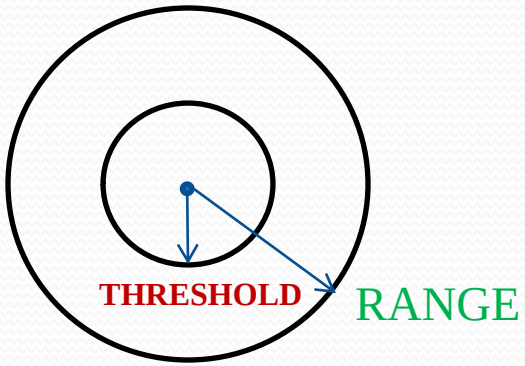
INNER LIMIT DEFINES THE THRESHOLD

OUTER LIMIT DEFINES THE RANGE OF GOODS

THE RANGE OF GOODS

- Which refers to maximum distance that consumers are willing to travel to purchase the goods or services.

Higher order goods have longer ranges, lower order goods have smaller ranges.



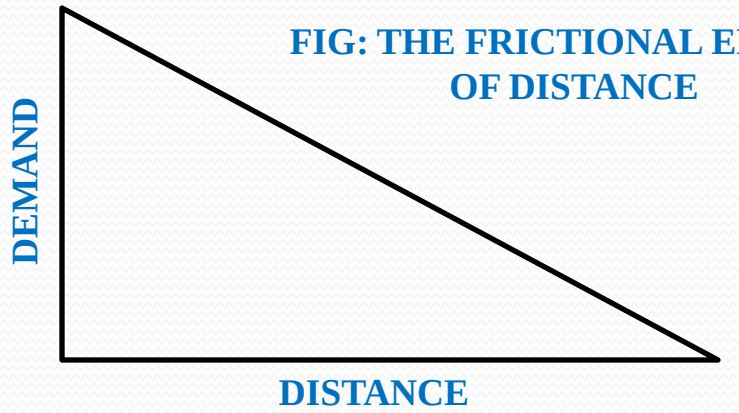


FIG: THE FRICTIONAL EFFECT OF DISTANCE

This frictional effect of distance, realized through transport cost causes demand to decrease proportionately with distance from central place.

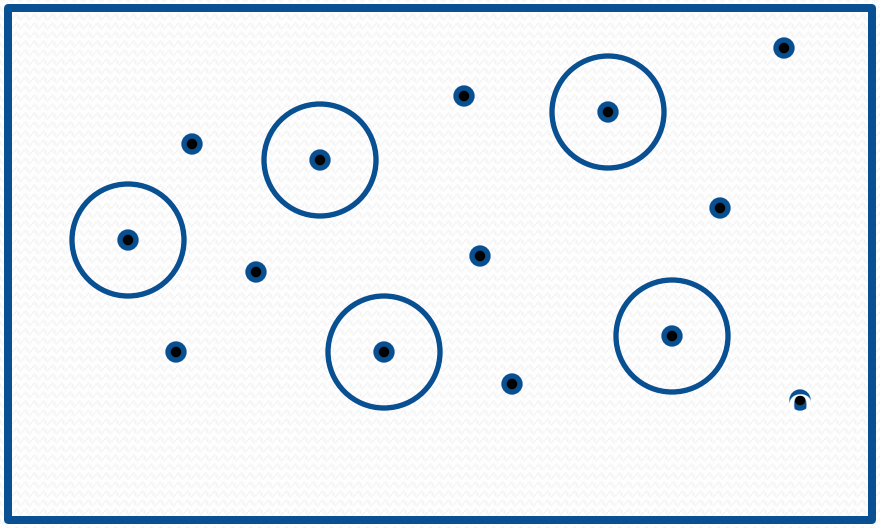
ASSUMPTIONS OF CENTRAL PLACE THEORY

ASSUMPTIONS

- An isotropic (all flat) surface
- An evenly distributed population
- Evenly distributed resource
- Similar purchasing power of all consumers
- Transport cost equal in all directions and proportional to distance
- No excess profit (perfect competition)

DIFFERENT PACKING PATTERNS OF SETTLEMENTS WITH VARYING LEVELS OF EFFICIENCY

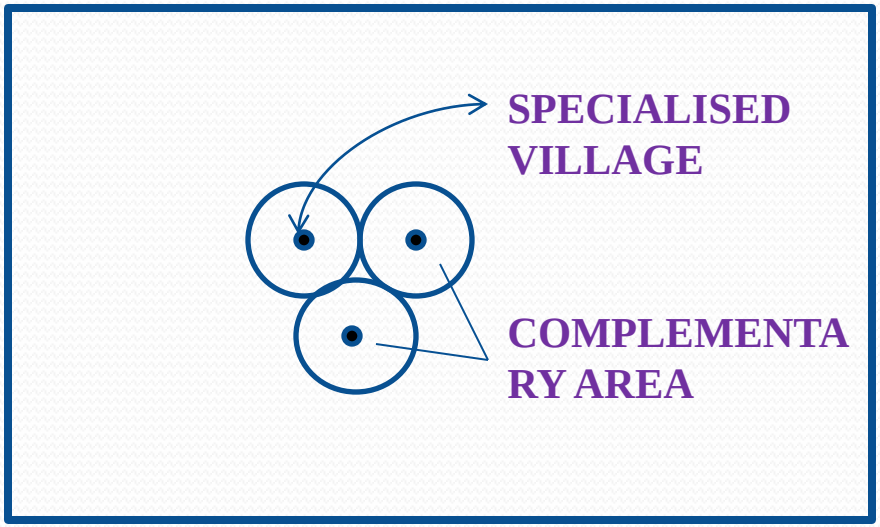
(a) ISOLATED CENTERS WITH THEIR SERVICE AREAS



SMALLEST ASSOCIATION OF CENTERS

(Incipient Development from self-sufficiency)

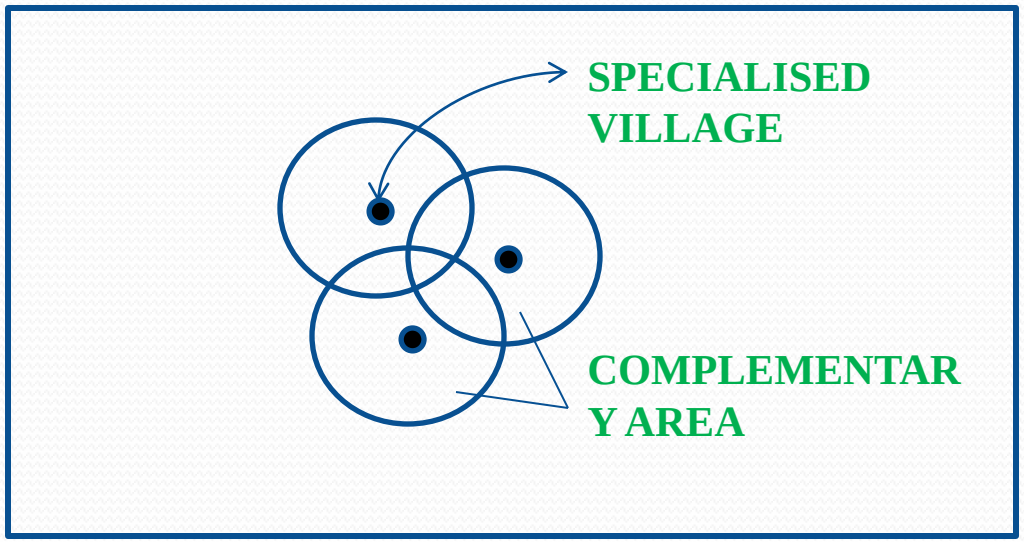
(b) AREA OF VACUUM CIRCULAR SERVICE AREA



INEFFICIENT

(Circular trade areas with unserved spaces)

(c) OVERLAPPING SERVICE AREA

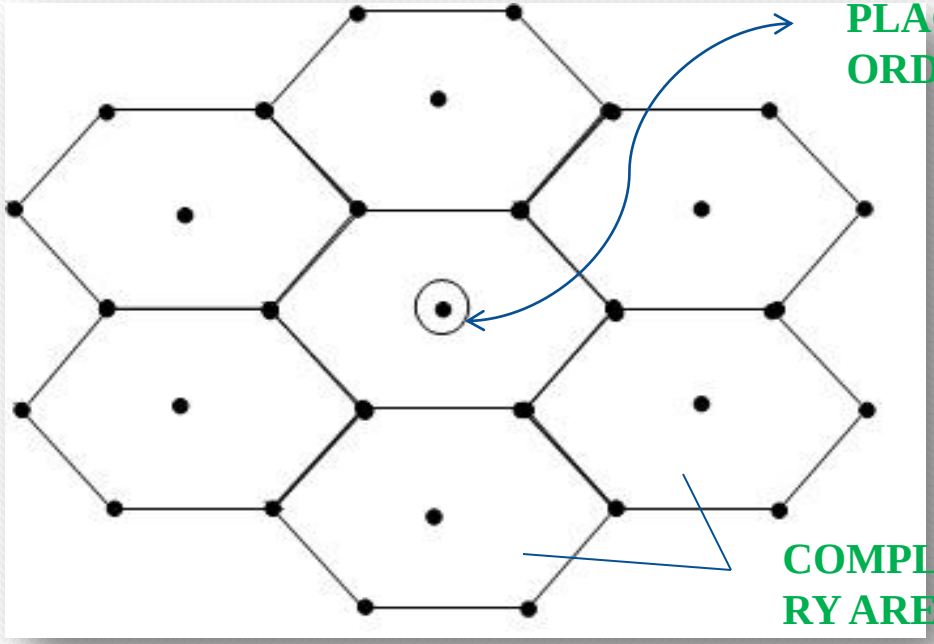


INEFFICIENT

(Circular trade areas with overlapping spaces)

(d) HEXAGONAL SERVICE AREA

Contd….



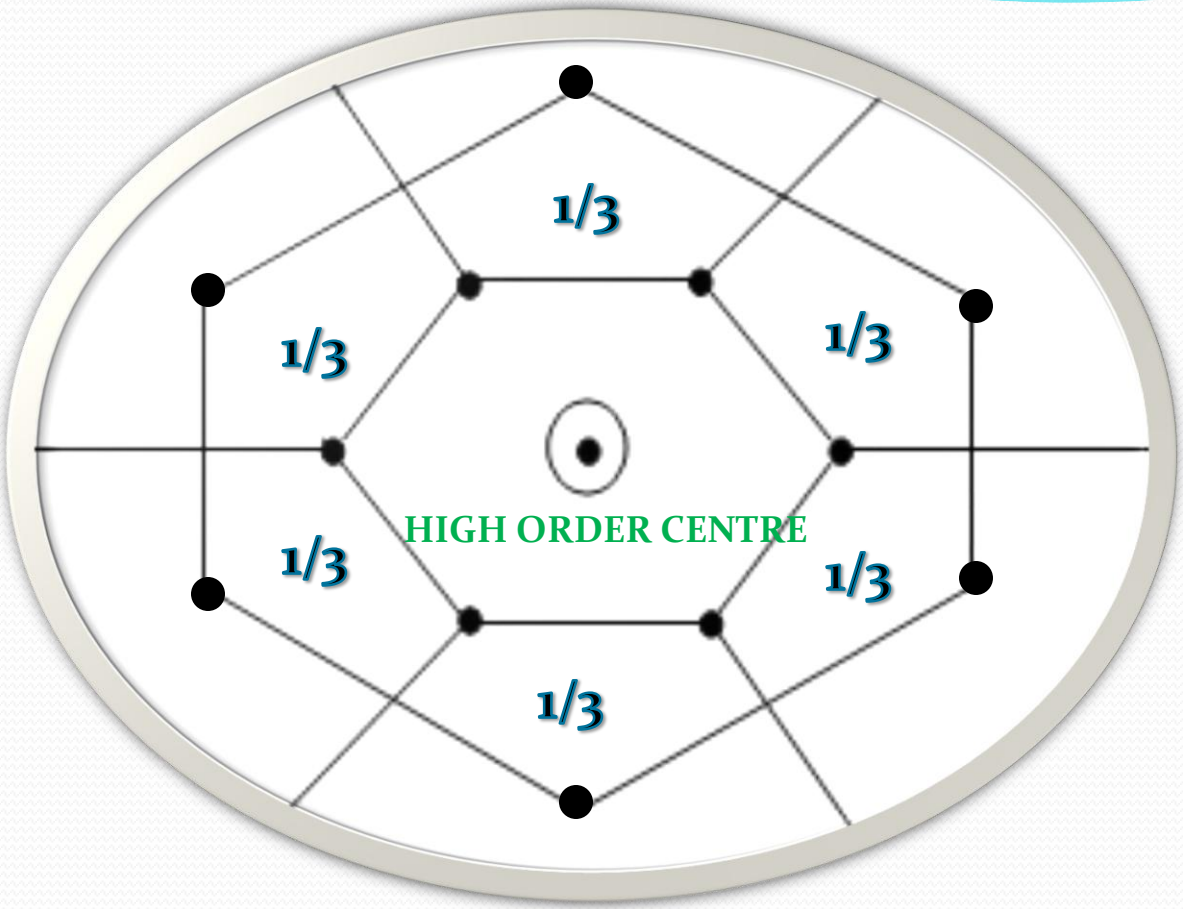
EFFICIENT

(Hexagonal trade areas illustrating complete space-filling)

Christaller considered the hexagonal pattern because, the size of the hexagonal is determined by the centers, higher order centers have bigger hexagonal market areas and lower order centers have smaller hexagonal market area. This results in a functionally and specially organized hierarchy of a central place. Each level in the hierarchy is characterized by equal distance between centers of that hierarchical level.

THREE BASIC PRINCIPLES OF WALTER CHRISTALLER

MARKET PRINCIPLE (K = 3)



1/3 population of 6 lower order Centre = 6x1/3

= 2

+

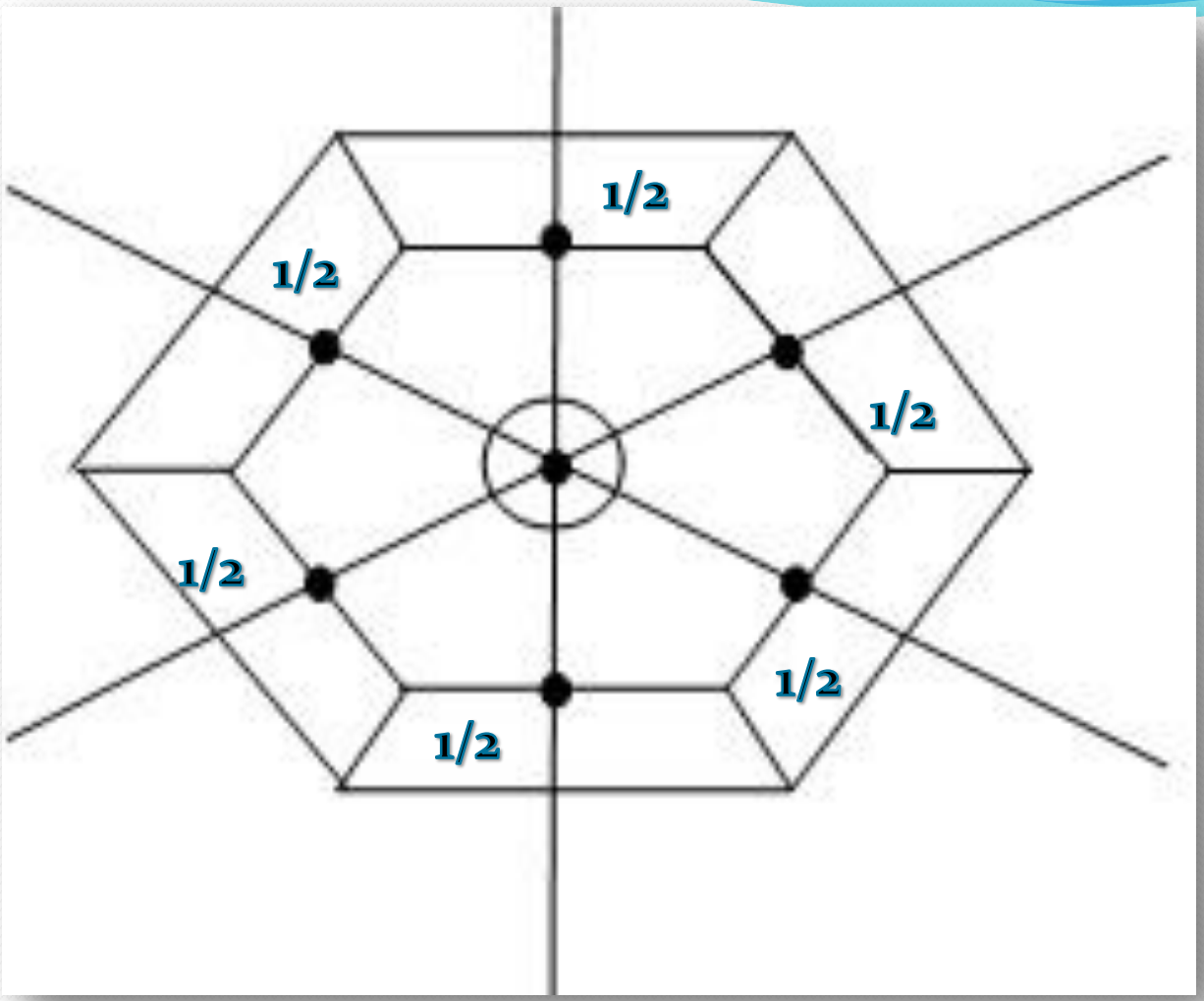
1 Higher order Centre = 1(serves it own population)

2+1=3

A CENTRAL PLACE SYSTEM ORGANISED ACCORDING TO CHRISTALLER MARKET PRINCIPLE (K=3)

LEVEL OF HIERARCHY	EQUIVALENT NUMBER OF CENTRAL PLACES DOMINATED BY THE HIGHER ORDER CENTRE	EQUIVALENT NUMBER OF MARKET AREAS DOMINATED BY THE HIGHER ORDER CENTRE
Metropolis	1	1
City	2	3
Town	6	9
Village	18	27
Hamlet	54	81

TRANSPORT PRINCIPLE (K = 4)



1/2 population of 6 lower order Centre = 6x1/2

= 3

+

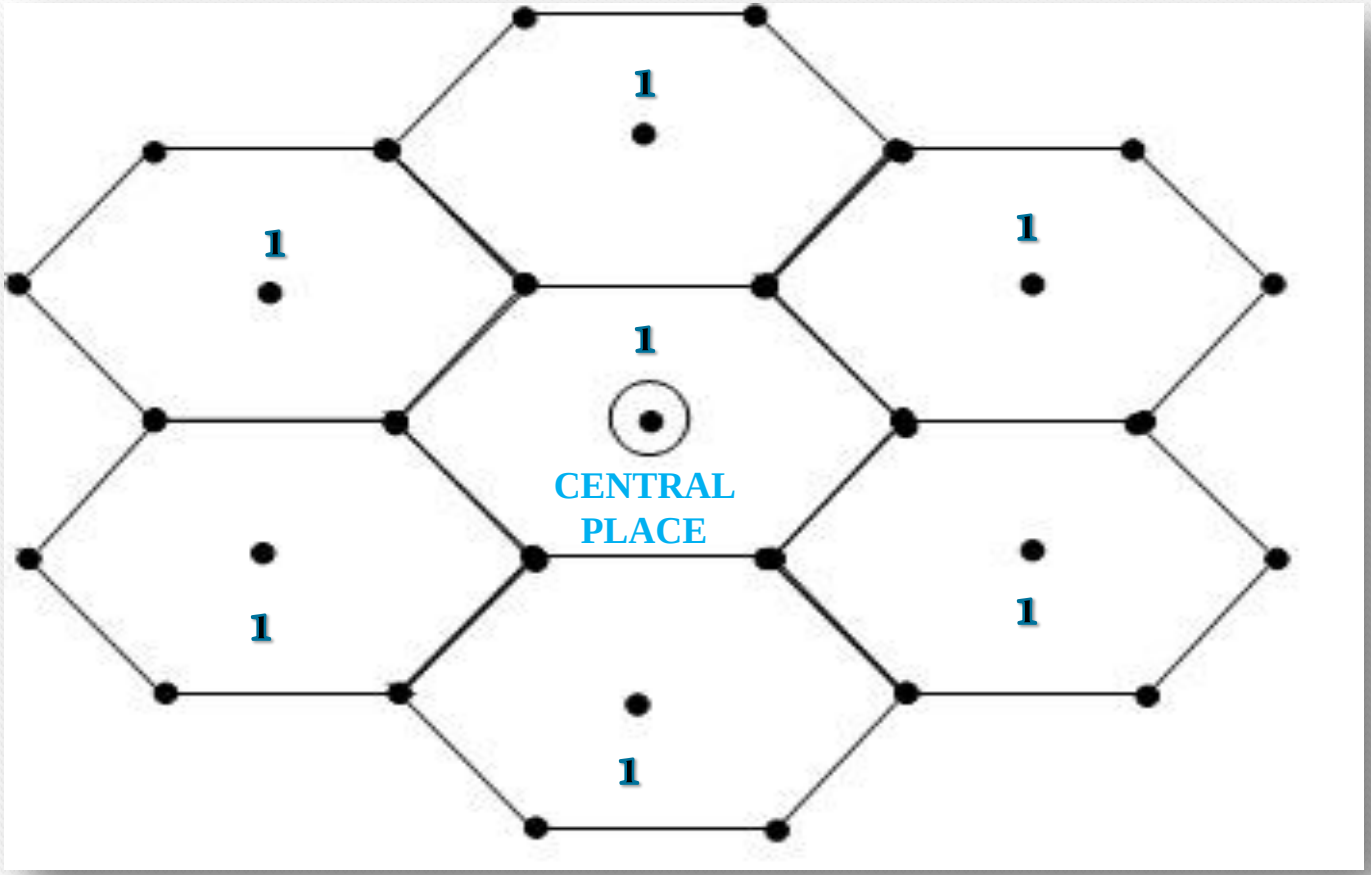
1 Higher order Centre = 1(serves it own population)

→ 3+1=4

A CENTRAL PLACE SYSTEM ORGANISED ACCORDING TO CHRISTALLER TRANSPORT PRINCIPLE (K=4)

LEVEL OF HIERARCHY	EQUIVALENT NUMBER OF CENTRAL PLACES DOMINATED BY THE HIGHER ORDER CENTRE	EQUIVALENT NUMBER OF MARKET AREAS DOMINATED BY THE HIGHER ORDER CENTRE
Metropolis	1	1
City	3	4
Town	12	16
Village	48	64
Hamlet	192	256

ADMINISTRATIVE PRINCIPLE (K=7)



population of 6 lower order Centre = 1/1x6 = 6

\+

1 Higher order Centre = 1(serves it own population)

6+1=7

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THANK YOU!