



MAP : ENLARGEMENT AND REDUCTION

LECTURE 1

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❖ **Enlargement and reduction of maps**

- ❖ In the process of compiling maps cartographers are often required to either reduce or enlarge maps. Reduction or enlargement involves change in the size.
- ❖ An enlargement provides the same map but proportionally larger than the original.
- ❖ A reduction gives the same map that is proportionally smaller than the original.



- ❖ The above image or map has been reduced by $\frac{1}{2}$. The amount that an original image has been enlarged or reduced is called a **scale factor**, or an **enlargement** or **reduction factor**. It is the constant factor by which all dimensions of an object are enlarged or reduced in a map. If shapes have been reduced by half, the scale factor is $\frac{1}{2}$.
- ❖ The ratio between the area of a map on one scale and its area to another scale is equal to the square of the ratios between the scales of the original and enlarged or reduced maps.



Graphical Method

- ✓ Graphically maps can be enlarged or reduced with the help of similar squares.
- ✓ In order to enlarge a map, cover the original map with a set of squares of equal sides. The side of the squares has to be enlarged proportionally to that the original map.
- ✓ The side of the square of the new In order to enlarge a map, cover the original map with a set of squares of equal sides.



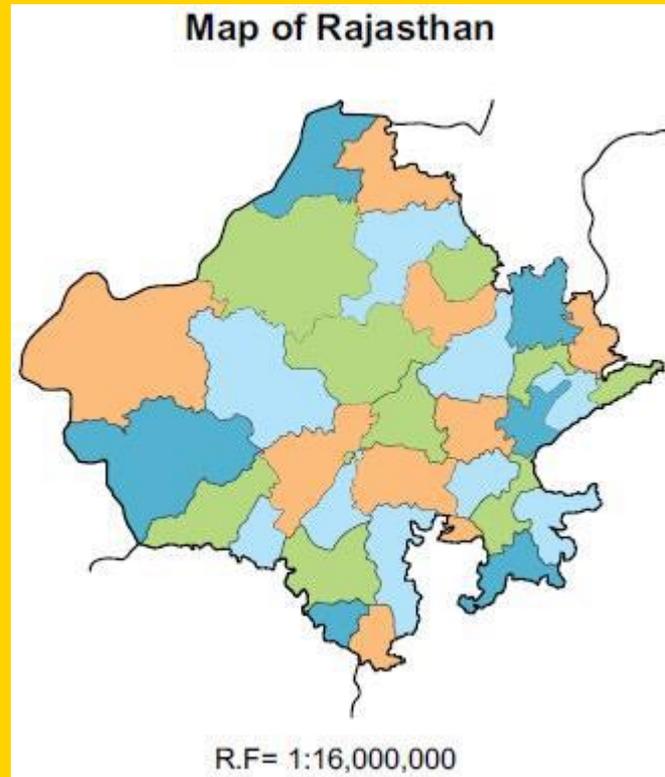
- ✓ The side of the squares has to be enlarged proportionally to that of the original map. The side of the square of the new map has to be determined using the formula.

Scale of the new map = New scale/old scale x Side of the square of the original map.



Example:

This is a map of Rajasthan drawn on a scale of $1/16,000,000$ and is to be enlarged on the scale of $1/8,000,000$.



To be continued...

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