Most accurately located points in order of accuracy:

1. Triangulation, or primary traverse stations.
2. Bench marks, information on elevation, usually found at road intersections, mountain tops, etc.
3. Railroads & canals.
4. Important bridges, etc.

E. Scale: The fixed relationship between distance on the map and distance on the ground. May be written in yards, thousands of yards, miles or meters.

1. Words and Figures Scale: Most common type and simplest to understand Example: One inch equals one mile.

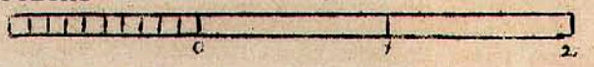
2. Graphic Scale: Most commonly used and most accurate. Is printed at the bottom of the map as part of the marginal information.

a. Primary part is to the right of zero and is graduated in miles, thousands of yards, or kilometers.

1 meter - 39.37 inches

1 kilometer - .62 of a mile (approx. 5/8 of a mile)

b. Extension is to the left of zero, each unit is divided into appropriate fractions:



3. Representative Fraction: One unit on the map represents a certain number of units on the ground.

a. Military maps are often classified according to their R/F.

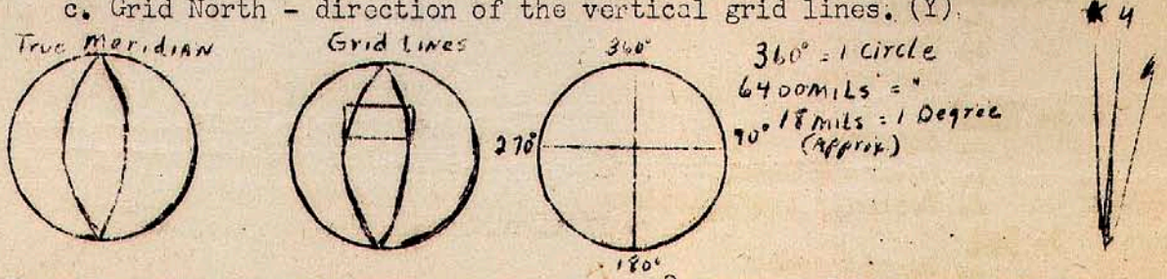
1. Large scale map R/F from 1/1 to 1/50,000
most common is 1/20,000
2. Medium scale R/F from 1/50,000 to 1/125,000
most common in this class is 1/62,500
3. Small scale: R/F of 1/175,000 or smaller.

F. Direction: Direction may be indicated in various ways, but for military purposes it is expressed in terms of an angle, or azimuth. This is the most accurate way to give a direction, and is expressed in degrees, minutes, seconds or mils.

Azimuth: is an angle measured clockwise from a given base direction.

Three Base Directions:

a. True North - direction of the true north pole. (Star)
b. Magnetic North - direction of the magnetic north pole. (Half an arrow)
c. Grid North - direction of the vertical grid lines. (Y).



N.B. There is never a difference of more than 3° between Grid North and True North.

G. Declination: The angle of difference (1) between True North and Magnetic North, which is the magnetic declination; (2) between True North and Grid North, which is the Grid declination.

Grid declination= 2°
Magnetic declination= 5°

Grid declination= 1°
Magnetic declination= 9°

Grid declination= 2°
Magnetic declination= 7°