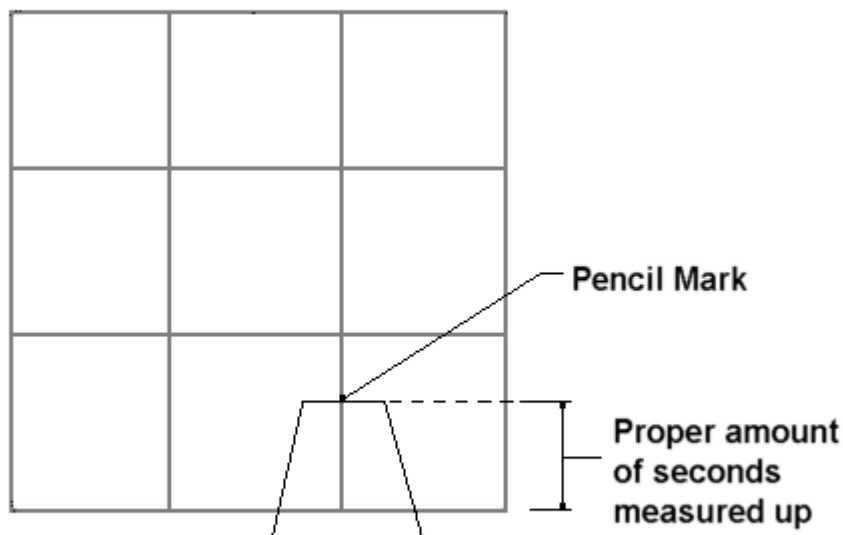


TCS Latitude & Longitude Grid Instructions

The Grid is a variable Scale!

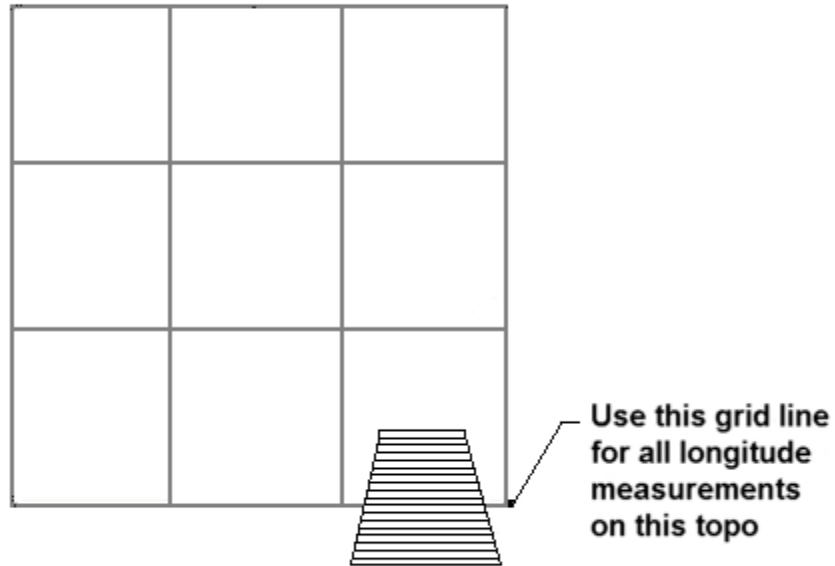
The correct unit of measurement is determined and the location is directly measured from the topography map to the grid. Latitude and longitude are printed at each corner of a map and at two places one third of the way along each side. A pencil line drawn between the two points divides the map into nine rectangles. These lines are then used as reference lines with the grid. The grid is used as a scale to determine latitude and longitude of a point on the map by counting units (interpolating) between the reference lines. Since latitude lines are parallel, a unit of latitude is represented by the same distance on the map of the same scale. To plot the latitude of a point the central line of the grid is used. From the latitude reference line nearest the point (horizontal lines on the top) measure up (or down) the appropriate amount of seconds keeping the central line directly over the vertical reference line. Put a pencil mark on the vertical line at the edge of the grid. This will be the latitude of the point.

Diagram 1



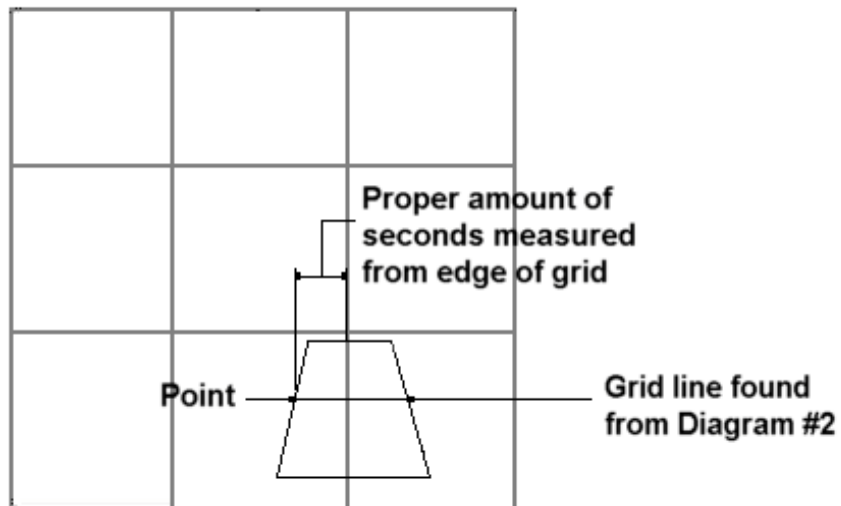
Longitude lines are not parallel. The distance representing a given longitude on a given map will be different on maps further north or south. The sloping sides of the grid allow one to select a line on the grid which should come close to matching the distance between two reference lines. To determine the proper grid line to use just slide the grid up and down between any distance (vertical lines) until the grid fits within the distance. The grid line closest to this distance can be used for any longitude measurement on the same map.

Diagram 2



To plot the longitude of a point. Place the proper line of the grid over the penciled latitude mark found previously. And measure over the proper number of seconds. The edge of the grid line used is then directly over the point. Mark it with a pencil.

Diagram 3



To find the coordinates of a given point just reverse the measuring procedure counting the number of seconds between the point and a reference line. Grid overlay can be purchased through the TCS.