MASTER MARKSMANSHIP TRAINING COURSE

Range Estimation

Nature of the Terrain

- Upward sloping terrain distance appears shorter
- Downward sloping terrain distance appears further
- Dead space makes target appear closer
- Smooth and flat terrain makes target appear farther

Nature of the Light

- Bright and clear, the target appears closer
- Dull and dark, the target appears farther
- Sun behind viewer, the target appears closer
- Sun behind target, the target appears farther

Nature of the Target

- The larger the target the closer it will appear
- The smaller the target the farther it will seem
- A target that contrasts with its background will appear closer
- A target that has an irregular outline will appear farther

Ranging the Target

- Football Field Method
- Appearance of Objects Method
- Visible Detail Method
- Bracketing
- Mil Relation Formula / Reticle Measurements
- Map Method

Football Field Method

- Estimate 100 yards, then determine how many of these units will fit between you and the target
- This method's accuracy is limited to the ground visibility
- Accurate to about 800 yards

Appearance of Objects

- This method requires the viewer to be familiar with the sizes and details of personnel and equipment at certain distances
- Limited by visibility and familiarity of target

Visible Detail Method

- Observing the amount of detail on the target at various ranges indicates the distance

- A human target at:

  100 yds- facial features are identifiable

  200 yds- loss of facial detail, but skin and equipment color identifiable.

  300 yds- clear body outline, face color visible, but other details blurry.

  400 yds- body outline is clear but remaining details blurred.

  500 yds- body shape tapers at ends and the head melds with the shoulders.

  600 yds- body appears wedge-shaped without appearance of head.

Bracketing

- The viewer estimates the shortest possible distance, then the farthest possible distance
- The average of those distances is the estimated range to the target

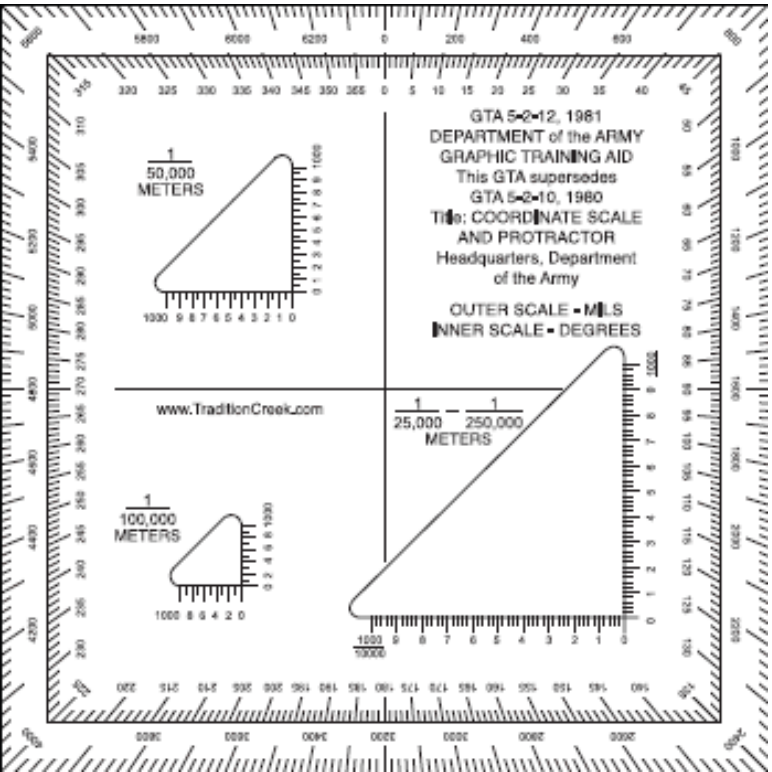
100 yards

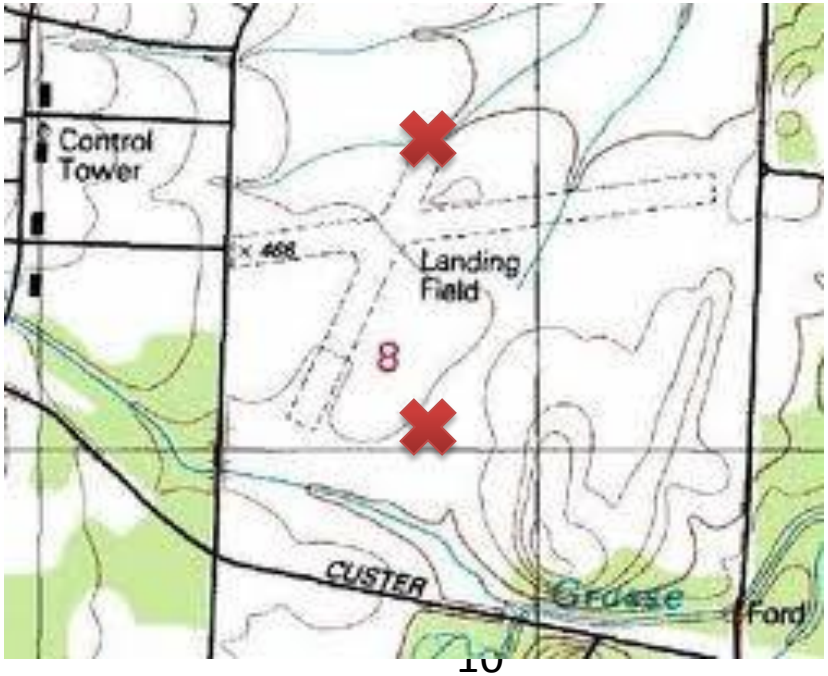
200 yards

300 yards

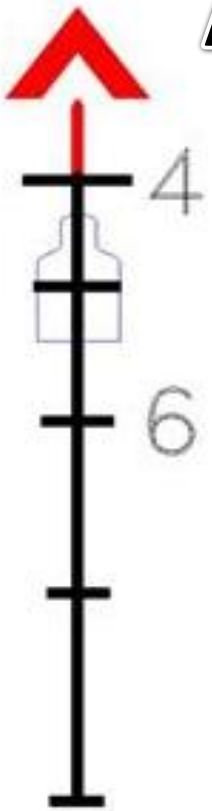
Map Method

1. Plot your location on map
2. Plot the location of the target
3. Measure distance between the two points





Ranging the Target ACOG



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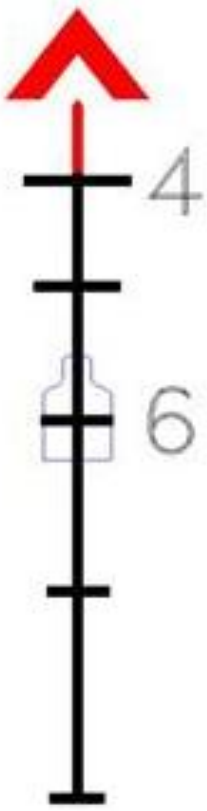
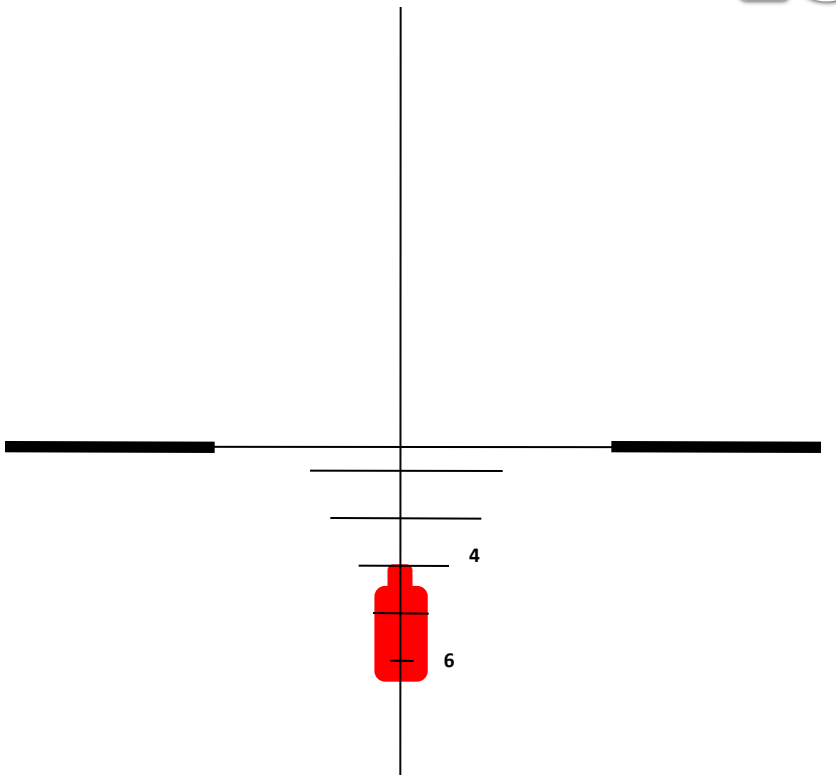


600M

Ranging the Target
ECLAN



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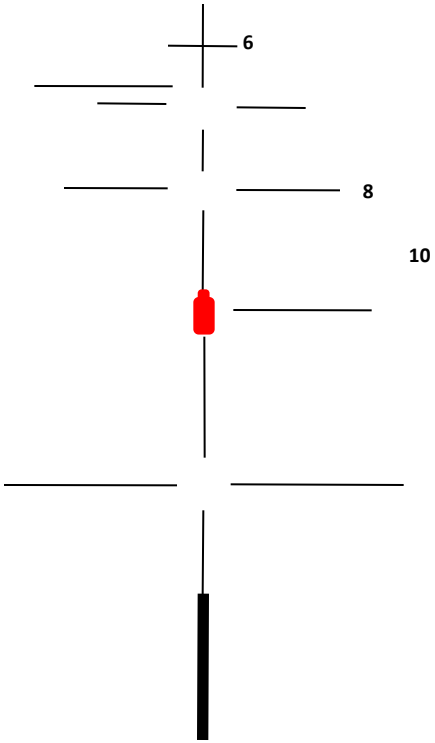

900M

Questions?