

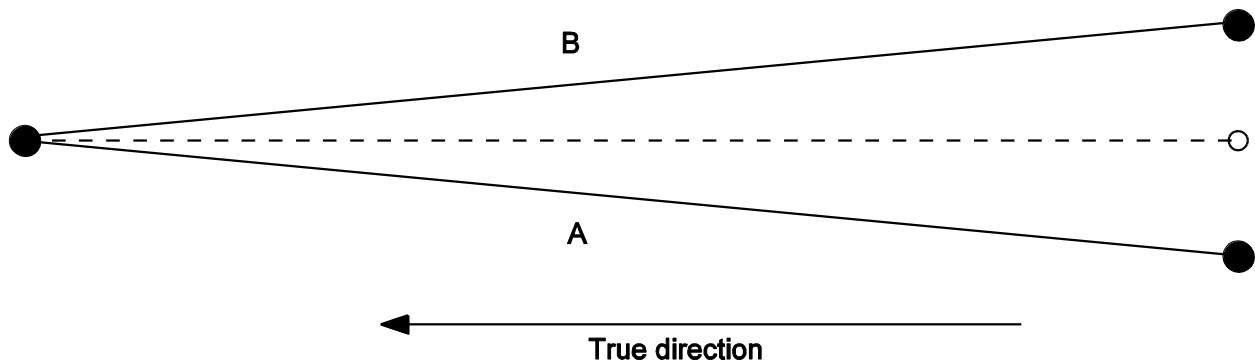
## Boundary establishment and land area estimation

A common task for foresters is the boundary establishment and estimation of land areas. General these task are accomplished by traversing a management unit, establishing a boundary and determining the internal area.

Let's talk about com basic surveying concepts.

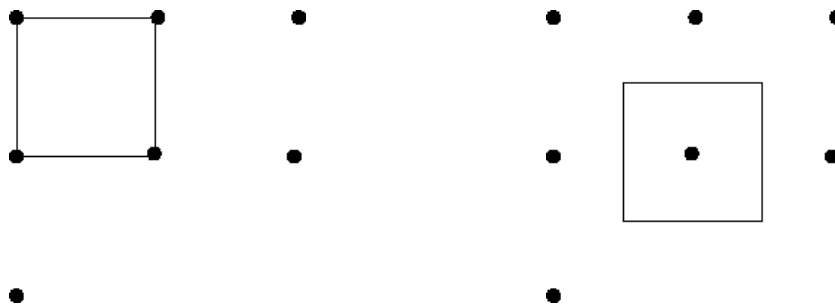
Establishing a straight line with low precision equipment.

If we want to establish a straight line in the direction of the arrow. We can do this by double transverse method. First transverse the line with you best estimate of the correct direction (A). Then we reverse the process (B). If there is no error we will return to the first point. If we take one half the distance between the beginning and ending point the midpoint forms a true direction lie to the outer point.



If you have a survey around a polygon you could use the Double Meridian Distance to calculate the area. This method is covered in the survey literature.

You could use a dot grid. If you have a map and know the scale you can determine the area that each dot represents. Then you simple count the IN dots and multiple by the area per dot.



You could use a polygon drawn in a GIS system.

You could traverse the area with a GPS to make your external polygon.

## Important Numbers

### Area

Acre = 43560 sq ft

Sq Mile = 640 acres

Sq chain =            acres

### Length

Mile = 80 chains

Side of an acre =            feet

### Metric Area

Hectare = 10,000 sq m

Sq Kilometer = 1,000,000 sq m or            hectares

### Metric Length

Side of a hectare =            m