FRST121 – Mapping and Photogrammetry

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Practical Navigation Tools

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NEVER GET LOST AGAIN!

The Complete Guide to Improving Your Sense of Direction

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Outline

► Resection, intersection and triangulation
► Navigating with the N star
► Finding N-S with the sun

Where am I?

Resection

► Finding your position by getting a compass bearing to 2 or 3 known points on a map

► You are AT the unknown point

Where is that?

Intersection

► Locating a feature or object by getting a compass bearing from 2 or 3 known points
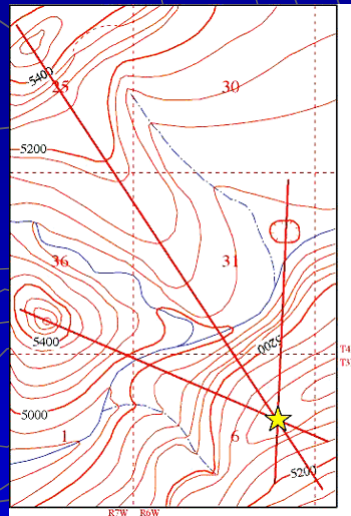
► You are AWAY from the unknown point

Triangulation

► Locating a point by measuring angles from two known points along a fixed baseline
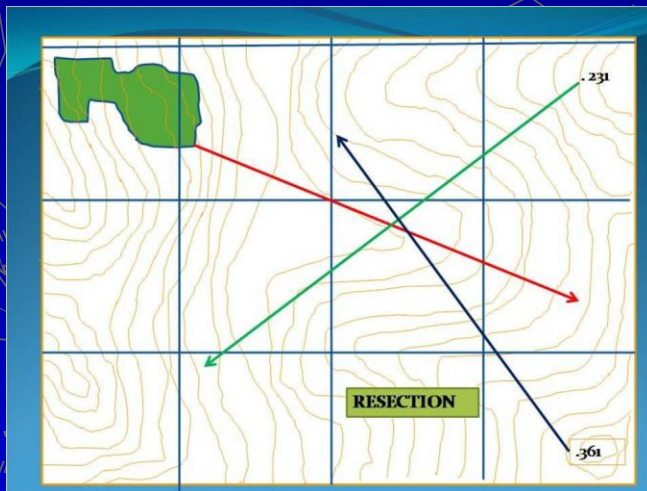
► Same basic idea

Determining your location (resection)

► Find 3 features that you can pinpoint on your map

► Mountain tops, junctions (rivers, roads)
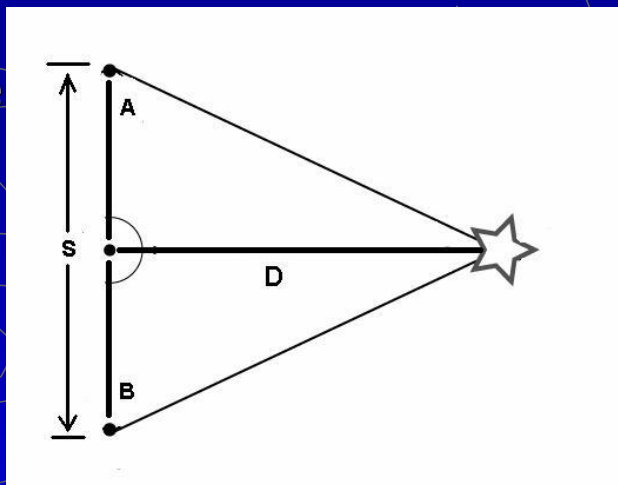
► Take azimuth and plot the reverse (180°) with a line
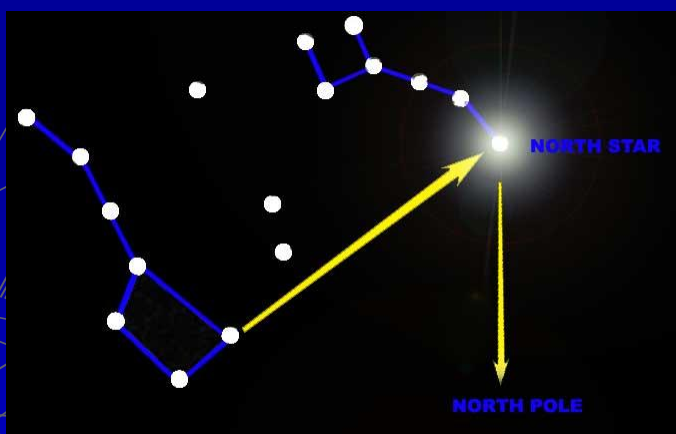

What if it's not perfect?

► You'll be within the "triangle of error"

► Re-do if it is too big

Determining a feature location (intersection)

► Get an azimuth to the feature from 2 or 3 known locations

► Plot the lines; where they intersect is the location

Triangulation

A technique for establishing the distance between any two points, or the relative position of two or more points, by using vertices of a triangles, such th a side of known (base or base lin size of the angle the length of its established by ob either upon or fr the base line.

Triangulation

► Measure a baseline
► Measure angles A and B
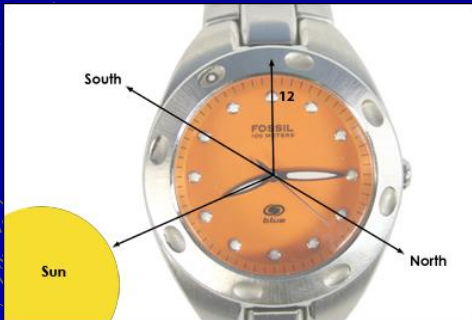► You can also get a distance (D)

Using Polaris

- N star is always within 2 degrees of true north
- The vertical angle from the horizon = latitude

Using the sun and a watch

► The sun is due S at noon (Std.Time)
► Due E at 6 a.m.
► Due W at 6 p.m.
► At other times...
- point hour hand at the sun
- S is half way to 12

That's it...so get lost!