

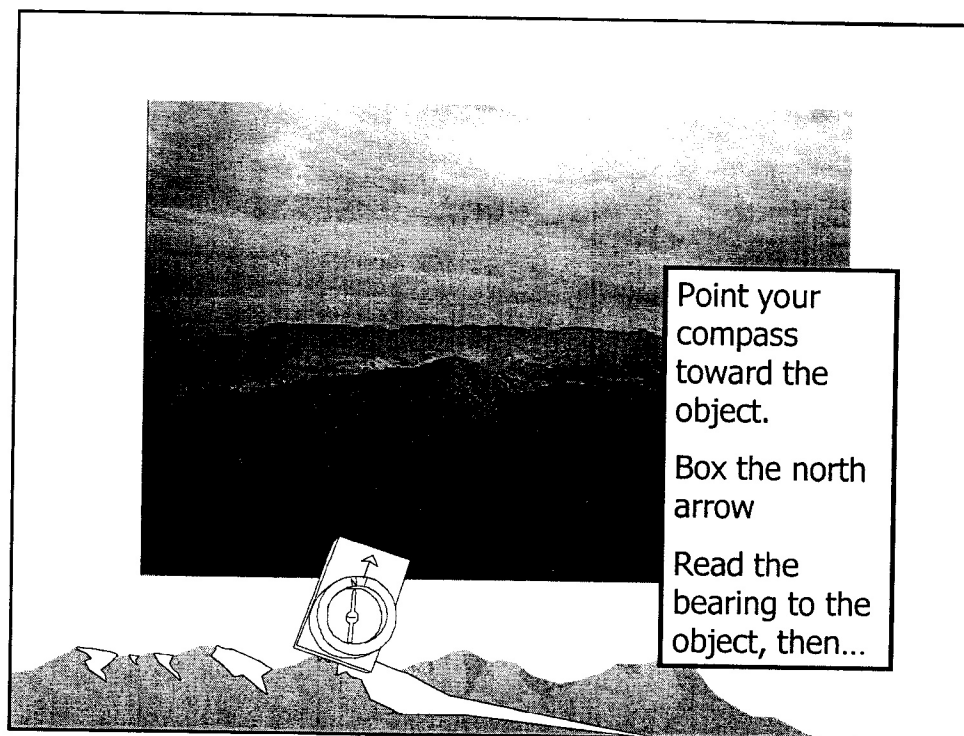
We'll Learn...

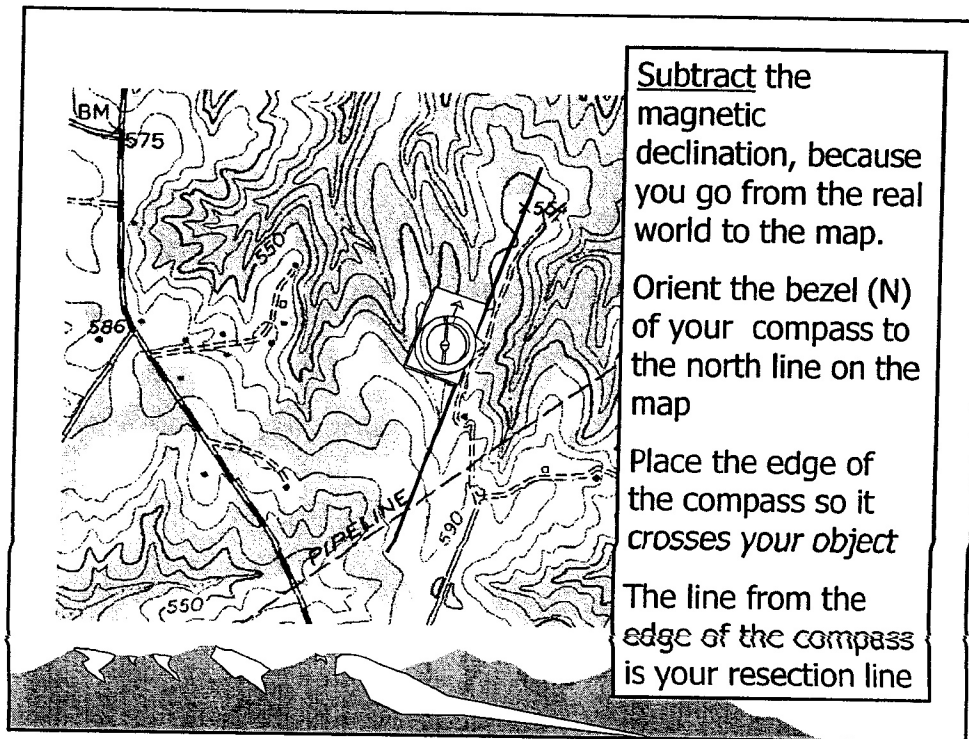
- Map Walking
- Resection
- Triangulation
- Bail-out plans
- Other tips for fast and accurate land navigation



Skill #2 Resection

- Resection is the term for finding out your position when you can see several things in the world which are also on your map.
- Take a bearing to the object (peak, tower, fireroad entrance, etc)
- Plot the reverse bearing on your map from that location.
- You'll know that you are along that line.
- Pick a couple more features to resect and you'll know you are at the intersection





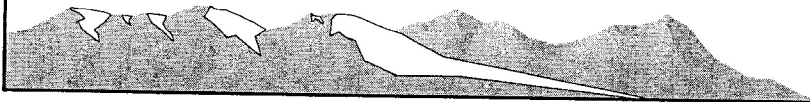
Exercise #2

- On your map handout, you can see the following features:
 - Cave Hill 118 degrees
 - Highest point of Bowling Green Mt. 210 deg
- Use resection to find your position
- If you were standing on an identifiable linear feature, you could use that to assist your resection



Skill #3 Triangulation

- Triangulation is simply the reverse of resection
- You are finding the location of another object when you can see it, and know where you are.
- This can be done by several teams in the field, or by a single team moving from place to place
- Q: This tactic would most likely be used for a _____ search.

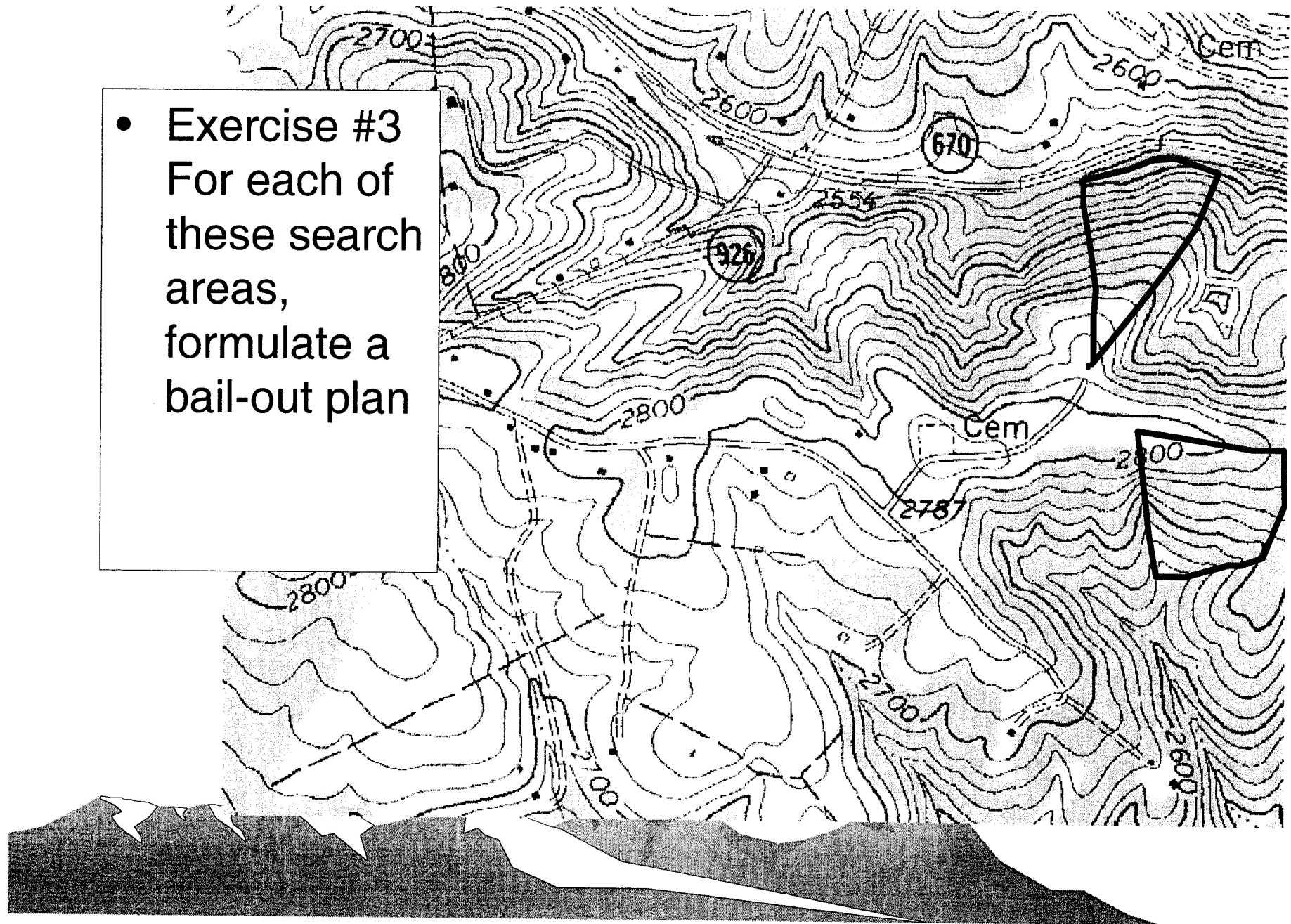


Skill #4 Bail-out plans

- A bail-out plan is your last resort when your map is in shreds, your compass is lost, you can't get base on the radio, and your headlamp batteries are dying
- You need to have a backup plan that you can execute under these circumstances to get your team out safely and not become a subject yourself



- Exercise #3
For each of
these search
areas,
formulate a
bail-out plan



Other useful tips

- Always keep track of your location
 - Follow your progress by highlighting your path
 - You'll always know where you are when base asks for your location
- Catch yourself before you try to make reality fit what you are seeing on your map. It's tempting
- Don't be afraid to use your team members
 - Have a team member walk the edge of a field while putting the rest of the team in the woods so he can shout out when you get to the end of the field



Measuring area from a topo map...

- **Measuring area from a topo map...** Here are some distance measurements to help you estimate your search areas in the field:
 - 1 kilometer=0.62 Miles=1094 Yards
 - 1 acre=43,560 Sq Feet
 - 1 Sq Mile=640 Acres
 - 1 Sq Kilometer=247.1 acres
 - 1 hectare=100X100 meters (1 square on small plastic map grid*)
 - 20 acres=about 8 little grid squares*
 - 40 acres=about 16 little grid squares*
 - More of these are on the extra handout

*for a 1:24,000
topo map



Other useful tips:

- Learn to use time to estimate distance
 - Know how long it takes you to walk 100 meters on a trail, through the woods, and while searching
 - Helps with reality checks... “I can’t be 1.5 kilometers away, I’ve only walked for 9 minutes
- Know how big various distances and areas are. The handout has some handy examples
- Carry an extra compass
 - Use as a backup
 - Can give it to an FTM to back up your land-nav



DISTANCE AND AREA =====

SCALE 1 : 24,000

on the map : actual distance

1 inch = 24,000 inches

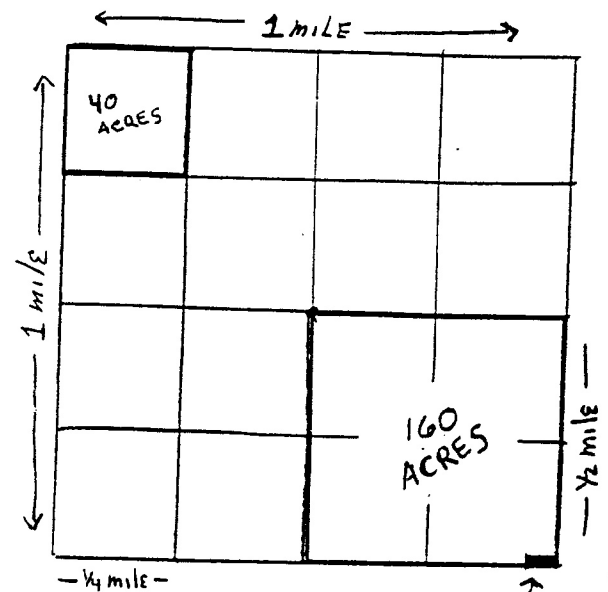
1 inch = 2,000 feet (.38 mile)

2.6 inches = 1 mile

FOOTBALL FIELD

YARDS	FEET
100	300
50	150
5,000	45,000 = 1.03 ACRES
SQ YD	SQ FT

1 SQUARE MILE = 640 ACRES



Football Field

1 ACRE = 43,560 SQ FT
=====

209 209 FT X FT

20 ACRES = 871,200 SQ FT
=====

933 933 FT X FT
311 311 YD X YD

40 ACRES = 1,742,400 SQ FT
=====

1,320 1,320 FT X FT (1/4 MI X 1/4 MI)
440 440 YD X YD

160 ACRES = 6,969,600 SQ FT
=====

2,640 2,640 FT X FT (1/2 MI X 1/2 MI)
880 880 YD X YD

640 ACRES = 27,878,400 SQ FT
=====

5,280 5,280 FT X FT 1 SQUARE MILE
1,760 1,760 YD X YD

CIRCLE WITH 100 YARD RADIUS =

6 ACRES

CIRCLE WITH 200 YARD RADIUS =

26 ACRES

CIRCLE WITH 300 YARD RADIUS =

58 ACRES

CIRCLE WITH 1/4 MILE (440 YD) RADIUS =

126 ACRES

CIRCLE WITH 1/2 MILE (880 YD) RADIUS =

503 ACRES

CIRCLE WITH 1 MILE RADIUS = 3.1 SQ MILES = 2,011 ACRES

CIRCLE WITH 5 MILE RADIUS = 78.6 SQ MILES = 50,286 ACRES

b:\acres

3/4/94

1 Km = 0.62 mi
= 3274 ft
1 Km² = 0.386
= 247 Acres