

# AT HOME READING MATERIAL

## WHY SHOULD I READ THIS SEEMINGLY RANDOM HODGEPODGE?

- THIS IS ALL USEFUL INFORMATION
- MUCH OF IT WILL BE ON THE FTM TEST YOU WILL TAKE AROUND CHRISTMAS!

## LATITUDE & LONGITUDE

- IS A VERY OLD GRID SYSTEM. IT IS WELL SUITED FOR AIR AND SEA NAVIGATION, BUT NOT VERY USEFUL FOR LAND NAVIGATION ON FOOT. THIS IS THE SYSTEM YOU HAVE HEARD ABOUT ALL YOUR LIFE. THE EQUATOR, PRIME MERIDIAN, TROPICS OF CANCER AND CAPRICORN ARE ALL RELATED TO THIS SYSTEM.
- THERE ARE 360 DEGREES OF LONGITUDE. 0 IS THE PRIME MERIDIAN AND IT GOES 180 DEGREES EAST AND WEST. THERE ARE 180 DEGREES OF LATITUDE. THE EQUATOR IS ZERO AND IT GOES 90 DEGREES NORTH AND SOUTH.
- LINES OF LATITUDE RUN EAST TO WEST AND ARE CALLED PARALLELS; LINES OF LONGITUDE RUN NORTH TO SOUTH AND ARE CALLED MERIDIANS.
- EACH DEGREE OF BOTH LATITUDE AND LONGITUDE IS DIVIDED INTO 60 MINUTES. EACH MINUTE IS DIVIDED INTO SIXTY SECONDS. ONE MINUTE OF **LONGITUDE** IS AROUND ONE MILE, ONE SECOND IS ABOUT 100 FEET
- VIRGINIA IS AT ABOUT 40 DEGREES NORTH LATITUDE AND 80 DEGREES WEST LONGITUDE.
- A GRID SYSTEM KNOWN AS LORAN IS VERY SIMILAR TO LAT/LONG, EXCEPT SECONDS ARE NOT USED. INSTEAD, THEY ARE EXPRESSED AS DECIMAL MINUTES. FOR EXAMPLE  $10^{\circ} 10' 30''$  BECOMES  $10^{\circ} 10.5'$

## CONTOURS

- WITH PRACTICE, YOU CAN LOOK AT A TOPO MAP AND VISUALIZE THE LAY OF THE LAND. THE SKILL IS VERY MUCH AN ART, AND IT TAKES TIME AND PRACTICE TO DEVELOP. FOR MOST PEOPLE, THIS IS NOT INTUITIVE. DON'T DESPAIR IF IT'S HARD. ASK FOR HELP!
- IMAGINE PUTTING A SCIENCE FAIR MODEL VOLCANO IN A BATHTUB. FILL THE TUB WITH 1" OF WATER AND TRACE THE WATERLINE ONTO THE VOLCANO WITH A PEN. ADD ANOTHER INCH OF WATER AND TRACE AGAIN, REPEATING UNTIL THE VOLCANO IS COMPLETELY SUBMERGED. THE VOLCANO IS NOW COVERED WITH A SERIES OF LINES THAT, WHEN VIEWED FROM ABOVE, CONSTITUTE A TOPOGRAPHICAL MAP!

## THE ART OF ORIENTEERING

- **CORRECT DECLINATION** IS VERY IMPORTANT. IF YOU FOLLOWED AN UNADJUSTED BEARING IN CHARLOTTESVILLE YOU WOULD BE 160 M OFF COURSE AFTER 1 KM. IF YOU ADJUSTED THE WRONG WAY, THE ERROR WOULD BE DOUBLED. (MORAL OF OUR STORY: IF YOU'RE NOT SURE, IGNORE DECLINATION.)
- **HOW TO ORIENT A MAP:** SET THE BEZEL ON YOUR COMPASS TO THE DECLINATION MARKED ON THE MAP. LAY THE COMPASS ALONG THE EDGE OF THE MAP. (I.E. NORTH TO SOUTH ON THE MAP.) TURN THE MAP UNTIL THE MOVING AND PRINTED ARROWS MATCH. THE MAP IS NOW ORIENTED TO THE REAL WORLD.
- **CATCHING FEATURE:** AN UNMISTAKABLE FEATURE, TYPICALLY LINEAR, THAT WILL TELL YOU EXACTLY WHERE YOU ARE. E.G., "GO WEST TO POINT X. IF YOU HIT THE JAMES RIVER YOU'VE GONE TOO FAR." THE RIVER "CAUGHT" YOU.
- **COLLECTING FEATURE:** AN OBVIOUS FEATURE THAT CAN BE COUNTED ("COLLECTED") TO HELP DETERMINE YOUR POSITION. E.G., "FROM O-HILL DINING HALL, WALK TOWARDS CENTRAL GROUNDS ON McCORMICK ROAD. THE COMMERCE SCHOOL IS THE THIRD BUILDING ON THE LEFT PAST THE BRIDGE."
- **ATTACK POINT:** A POINT THAT MAY BE EASILY REACHED FROM WHICH MORE DIFFICULT NAVIGATION CAN BE STARTED. E.G. IF YOU WERE GOING TO MT. MCKINLEY, IT WOULD BE MUCH EASIER (SIMPLY IN TERMS OF NOT GETTING LOST) TO 1) FLY TO ANCHORAGE, 2) TAKE A BUS TO DENALI NATIONAL PARK, AND THEN 3) LOOK FOR MT. MCKINLEY RATHER THAN SIMPLY WALKING A DIRECT ROUTE STRAIGHT FROM CHARLOTTESVILLE. ON A MORE TYPICAL SAR LEVEL, IT MIGHT BE EASIER TO FIND A POINT BY FIRST GOING TO THE TOP OF A HILL AND THEN GOING BACK DOWN RATHER THAN NAVIGATING STRAIGHT FROM THE BOTTOM.

## USEFUL WEB PAGES & BOOKS

- *THE ESSENTIAL WILDERNESS NAVIGATOR* BY DAVID SEIDMAN. THE BEST GENERAL LAND NAV BOOK I HAVE FOUND. \$16 FROM AMAZON.COM INCLUDING SHIPPING. A NEW EDITION IS COMING OUT IN A FEW MONTHS
- GENERAL INFO ABOUT TOPO MAPS AND ALL THE SYMBOLS USED. [MAPPING.USGS.GOV](http://MAPPING.USGS.GOV)
- A GOOD DISCUSSION OF HOW TO USE A MAP AND COMPASS.  
[WWW.USGS.GOV/FACT-SHEETS/FINDING-YOUR-WAY/FINDING-YOUR-WAY.HTML](http://WWW.USGS.GOV/FACT-SHEETS/FINDING-YOUR-WAY/FINDING-YOUR-WAY.HTML)