Triangulation Problems

Instructions: This sheet contains 4 triangulation problems. Each problem is marked on the ground with colored flags; Yellow, Blue, Orange, and Green. The flags are located on the maps. They are labeled A, B, C, ... There is also a Red unknown flag whose location you must determine by triangulation from the known flags. Take bearings from the unknown flag to each of the known flags. Plot the bearings on the map. The unknow flag should be located where your bearings intersect. Don't forget to account for magnetic declination. Note: If too many people are waiting to take bearing from the unknown flags. You can take back bearings from the known flags to the unknown flag. Just align the south end of you compass needle instead of the north end. This will take the 180° reversal into account.
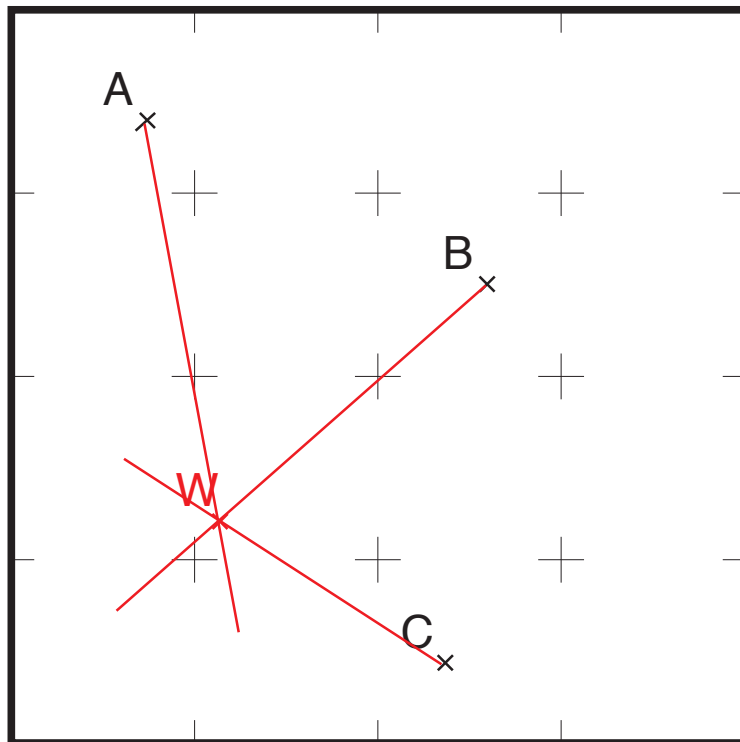
Magnetic
Declination = ___14___ °

www.MapTools.com

Yellow Flag Problem
Locate red flag W on the map below

W->A =
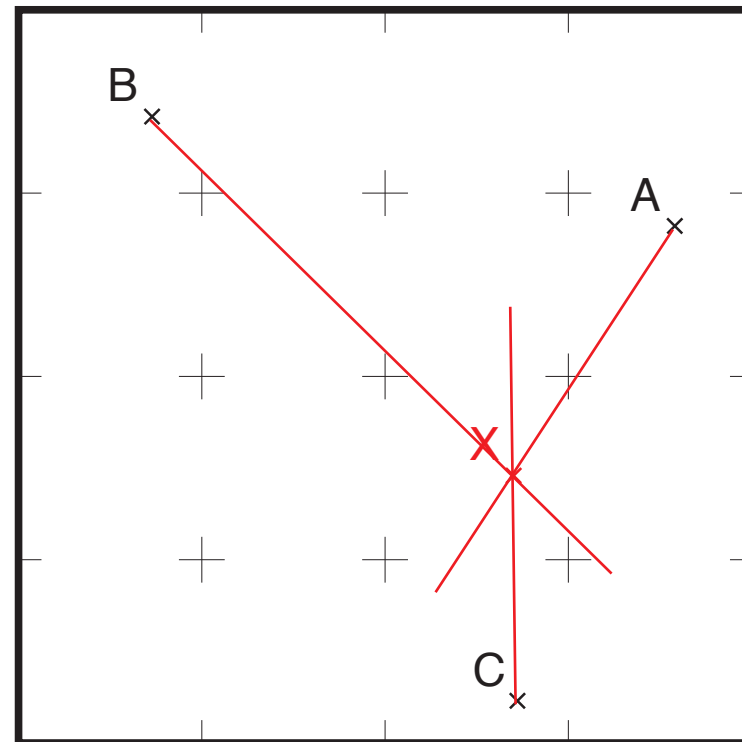   350°T
   334°M

W->B =
   48°T
   32°M

W->C =
   122°T
   106°M

* MN

Blue Flag Problem
Locate red flag X on the map below
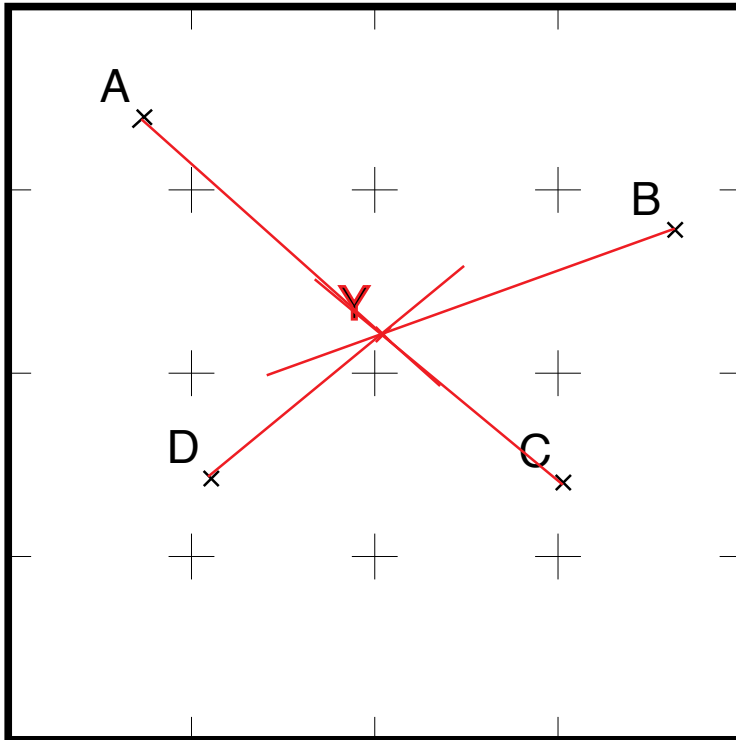

X->A =
   33°T
   17°M

X->B =
   315°T
   299°M

X->C =
   179°T
   163°M

* MN

Orange Flag Problem
Locate red flag Y on the map below
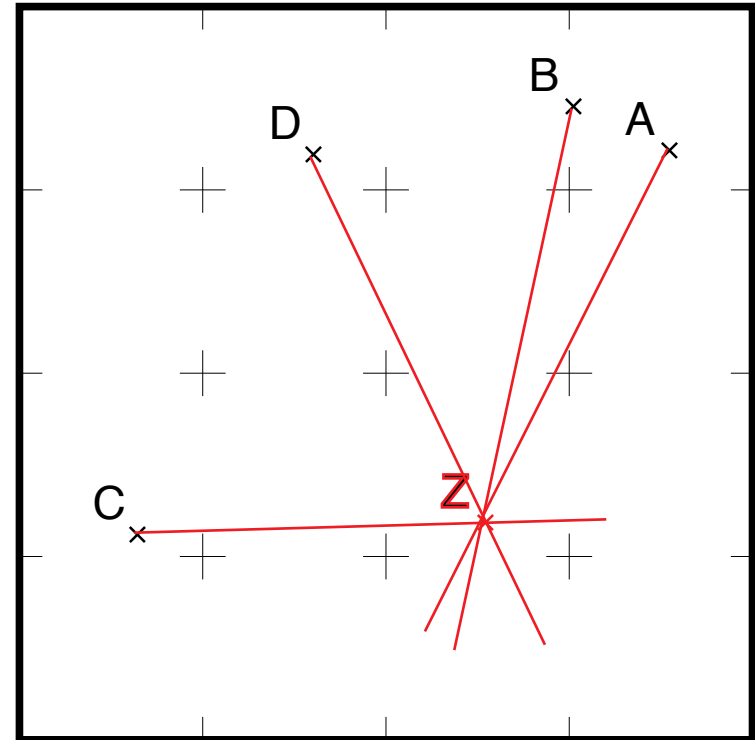

Y->A = 312°T 296°M

Y->B = 70°T 54°M

Y->C = 129°T 113°M

Y->D = 231°T 215°M

Note: Flags A & C are almost 180° apart. A small error in your bearings to these points will result in a large error when plotting your position. **Avoid selecting landmarks that are 180° from one another.**

Green Flag Problem
Locate red flag Z on the map below

Z->A = 26°T 10°M

Z->B = 12°T 356°M

Z->C = 268°T 252°M

Z->D = 334°T 318°M

Note: Flags A & B are very close together. A small error in your bearings to these points will result in a large error when plotting your position. **Avoid selecting landmarks that are too close to one another.**