Seatwork #1

1. Explain the difference between **direct** and **indirect** measurements in surveying. Give examples for each.
2. Define the term systematic error and give two surveying examples of this type of error.
3. Do the same for random error.
4. Explain the difference between accuracy and precision.
5. A distance AB is observed repeatedly using the same equipment and procedures, and the results, in meters, are listed below. Calculate the **Most Probable Value, Probable Error of the Mean.**
   65. 41; 65.4; 65.42; 65.39; 65.46; 65.41; 65.36; 65.41; 65.45; 65.44

6. Using the same data, determine the range at which the true value might fall.
   a. 50%
   b. 95%
7. An angle observed is observed repeatedly using the same equipment and procedures. Calculate the angle's **Most Probable Value** and **Probable Error of the Mean**.
   23°30'00''; 23°29'40''; 23°30'15''; 23°29'50''

8. Adjust the angles of triangle *ABC* for the following angular values and weights:
   A = 80°14'04"; B = 38°37'47"; C = 61°07'58"
   A = 49°24'22"; B = 39°02'16"; C = 91°33'00"