**Solve for the resultant graphically using a protractor. Place this assignment in your notebook:**

1. A cave explorer travels 3.0 m eastward, then 2.5 m northward, and finally 15 m westward. Use the graphical method to find the magnitude and direction of the his displacement.
2. A duck waddles 2.5 m east and 6.0 m north. What are the magnitude and direction of the duck’s displacement with respect to its original position?
3. While following directions on a treasure map, a person walks 45.0 m south, then turns and walks 7.50 m east. Which single straight-line displacement (magnitude and direction) could the treasure hunter have walked to reach the same spot?
4. An ant on a picnic table travels 30. cm east, then 25 cm north. What is the ant’s resultant displacement (magnitude and direction)
5. A hiker travels 31 km west on the first day of a hike, then 28 km south on the second day. What is the shortest straight-line displacement(magnitude and direction) the tired hiker can use to return to her starting point?
6. A jogger runs 8.0 blocks due west, 5.0 blocks due south, and another 2.0 blocks due east. What is his overall displacement(magnitude and direction). Assume all blocks are of equal size.