Name _____

Date _____

Mr Rawson

ISTANBUL INTERNATIONAL COMMUNITY SCHOOL
IICS SINCE 1911

Position and Displacement 1

1. A submarine dives 120.0 m at an angle of 12.0°below the horizontal. What are the horizontal and vertical components of the submarine's displacement? Draw a diagram.

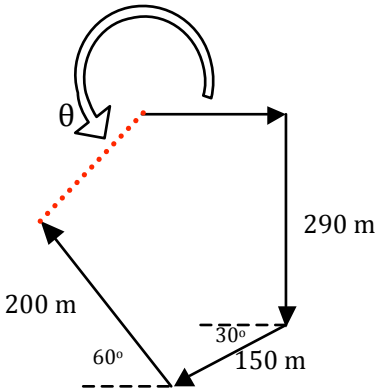
2. A golfer takes two putts to sink his ball in the hole once he is on the green. The first putt displaces the ball 6.10 m east, and the second putt displaces it 5.40 m south. What displacement would put the ball in the hole in one putt? *(reminder: displacement is a vector, so therefore you must find a magnitude and direction)*

3. A person walks 28.0°north of east for 3.50 km. How far would another person walk due north and due east to arrive at the same location?

4. Which one of the following is a correct definition of displacement?

   A. Distance from a fixed point
   B. Distance moved from a fixed point
   C. Distance from a fixed point in a given direction
   D. Distance moved in a given direction

5. A person walks the path shown in the figure below. The total trip consists of four straight-line paths. At the end of the walk, what is the person's resultant displacement measured from the starting point? Find the distance, and the direction, measured counterclockwise from the +x direction.



6. The eye of a hurricane passes over Grand Bahama Island. It is moving in a direction 60.0°north of west with a speed of v_1 = 36.0 km/h. Exactly three hours later, the course of the hurricane shifts due north, and its speed slows to v_2 = 27.0 km/h, as shown in Figure 3-30. How far from Grand Bahama, in kilometers, is the hurricane 4.50 h after it passes over the island?