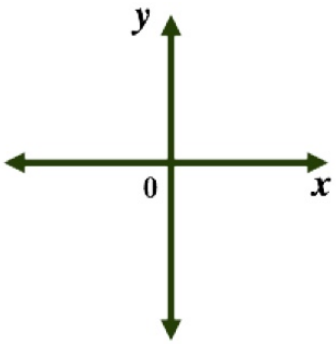
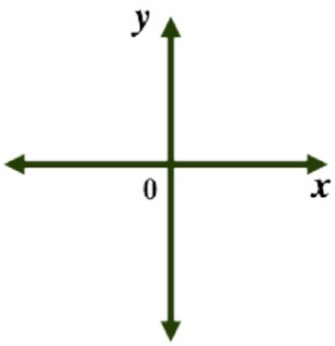
Worksheet #3: Angles & Bearings

1. Sketch each angle in standard position AND determine the reference angle.

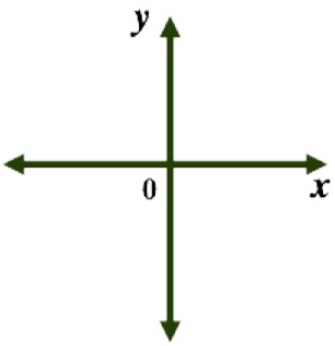
a) 137°



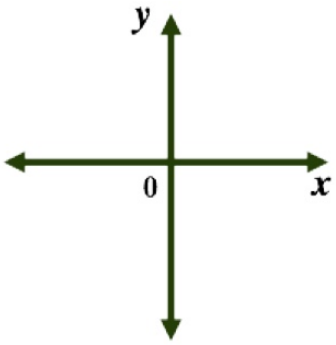
b) 345°



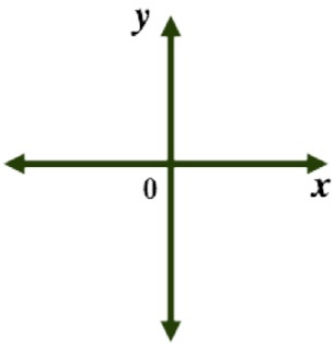
c) 64°



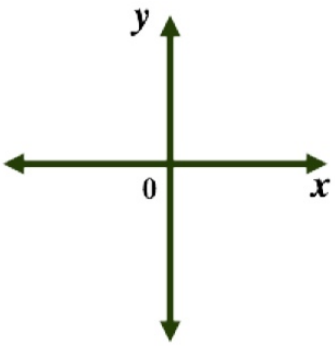
d) 219°



e) 155°

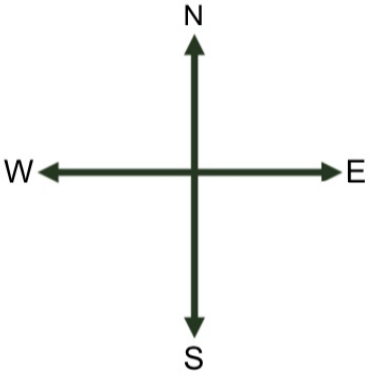


f) 323°

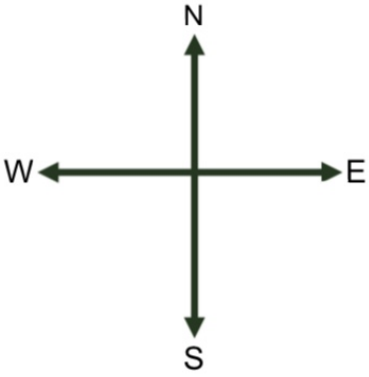


2. Sketch each true bearing AND convert it into an angle in standard position.

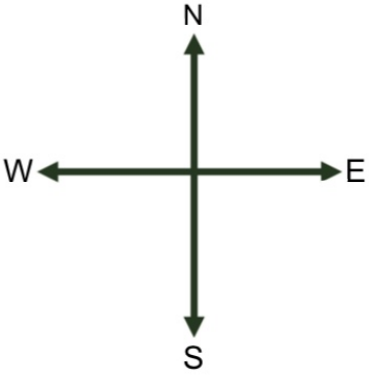
a) 25°



b) 245°



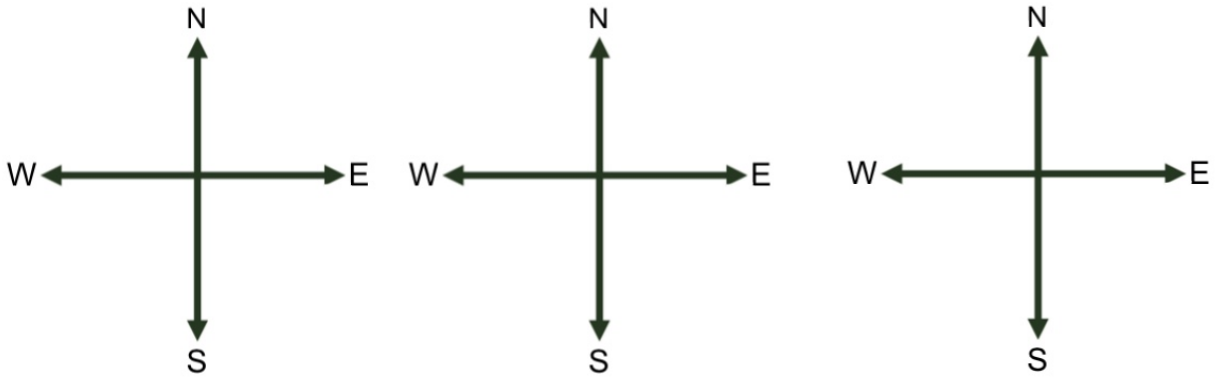
c) 164°



d) 349°

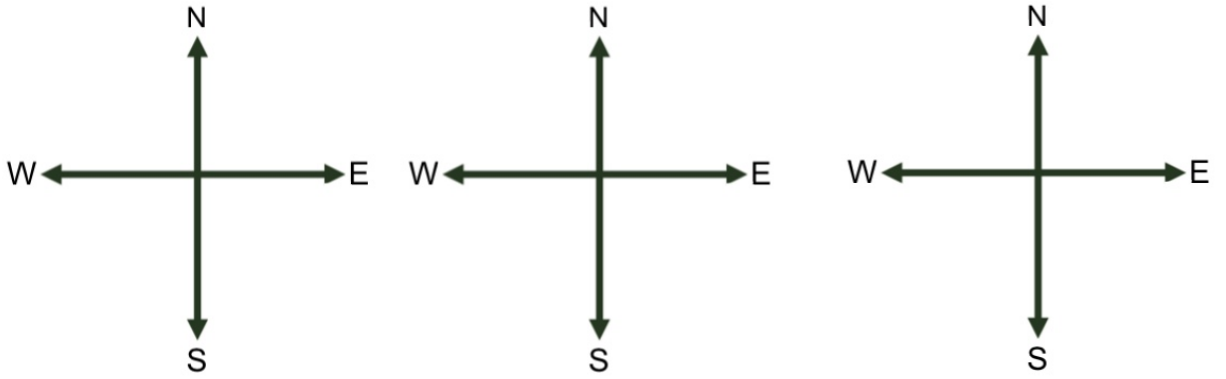
e) 125°

f) 270°

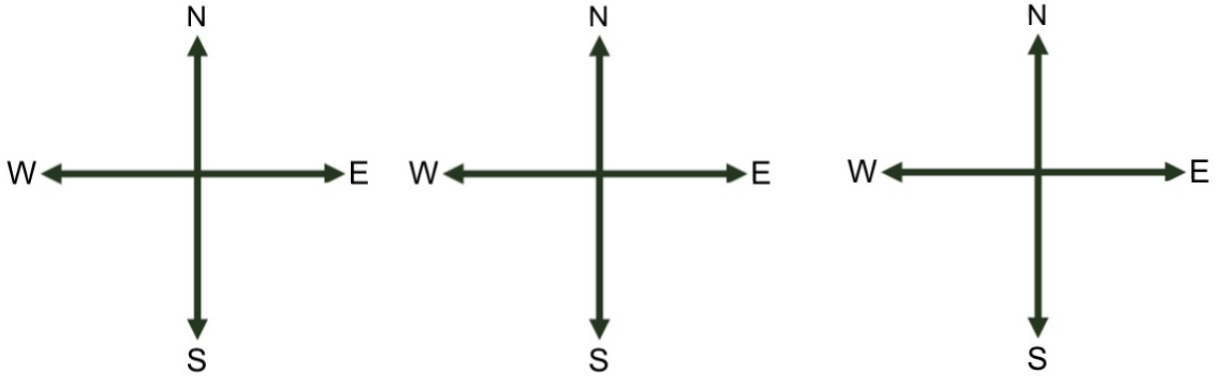


3. Sketch each Conventional Bearing AND convert it into a True Bearing AND an angle in standard position.

a) N35°E b) N78°W c) S64°W



d) S45°E e) S10°W f) N80°W



4. Sketch a labelled diagram for each of the following situations and **SOLVE**.
   a) A hiker travels 3 km due east and then hikes 2 km on a bearing of 110°. How far is the hiker is from her starting point?

   b) Two ships leave port at the same time. The coast guard cruiser leaves on a bearing of 32° and travels 36 km. The tanker is on a bearing of 122° and travels 15 km. How far does the coast guard cruiser have to travel to go directly to the tanker?

   c) The bearing between a plane and the Duncan airport is S55°E and from the Duncan Airport to the Nanaimo Airport the bearing is N35°E. The plane is 81 km from Duncan and the Airports are 45 km apart. How far is the plane from the Nanaimo airport?

d) Two forest fire towers, A & B, are 20.3 km apart. From tower A, the compass bearing to B is 110°. The fire is 15 km from tower A at a heading of 50°. What is the compass heading from tower B to the fire?

e) An airport radar operator locates 2 airplanes that are flying toward the airport. The first plane, P, is 120 km from the airport, in a N70°E direction. The other plane, Q, is 180 km away, in a S40°W direction. Calculate the distance between the two planes.

f) Two towns, Smith Falls and Chester, are 20 km apart. From Smith Falls, the direction to Chester is 70°. A grassfire has been reported at a bearing of 30° from Smith Falls and 12° from Chester. Which town's fire department is closer to the fire?