WS#7-3
The Law of Cosines

1. **The Law of Cosines states** _____

2. **Possibilities:**

   Case 1: SAS

   Solve the triangle: $a = 2, \ b = 3, \ \gamma = 60^{\circ}$

   Case 2: SSS

   Solve the triangle: $a = 4, \ b = 3, \ c = 6$

3. A motorized sailboat leaves Naples, Florida, bound for Key West,
   150 miles away. Maintaining a constant speed of 15mph, but
   encountering heavy crosswinds and strong currents, the crew finds,
   after 4 hours, that the sailboat is off course by 20°.
   A. How far is the sailboat from Key West at this time?
   B. Through what angle should the sailboat turn to correct its course?
   C. How much time has been added t the trip because of this?
       (Assume that the speed remains at 15mph.)

4. A radio tower 500 feet high is located on the side of a hill with an
   inclination to the horizontal of 5°. How long should two guy wires
   be if they are to connect to the top of the tower and be secured at two
   points 100 feet directly above and below the base of the tower?