

Name: _____

Law of Cosines

- 1) Find the area of the triangle whose sides are $a = 28$, $b = 60$, $c = 51$
- 2) Given the points $A(1,2)$, $B(-2,0)$ and $C(1,-3)$, find the area of triangle ABC.
- 3) Find the area of triangle ABC whose perimeter is 18ft with $b = 6.23$ ft and $c = 3.45$ ft
- 4) Given a triangle ABC with $a = 10$ ft, $b = 12$ ft and $c = 18$ ft. Find angle B and the area of the triangle ABC.
- 5) A person is riding in a hot air balloon. For the first hour and half the wind current is a constant 22 mph in the direction $N 37^\circ E$. Then the wind current changes to 18.5 mph and heads the balloon in direction $S 64^\circ E$, if this continues for another 2 hours, how far is the balloon from its starting point?
- 6) A surveyor walks 450 meters from point A to point B, then he turns 65° and walks 325 meters to point C. Approximate the length AC of the marsh.
- 7) Two ships leave a port at 8 A.M. one travels at a bearing of $N 45^\circ W$ at 12 miles per hour and the other at a bearing of $S 75^\circ W$ at 15 miles per hour. Approximately how far apart are they at noon that day?
- 8) Two ships have radio equipment with a range of 200 miles. One is 155 miles $N 42^\circ 40' E$ and the other is 165 miles $N 45^\circ 10' W$ of a shore station. Can the two ships communicate directly?