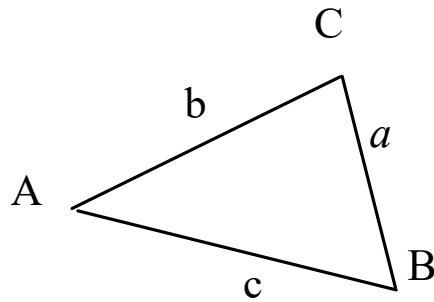


Section 6.2 Law of Cosines

(SAS, SSS)



$$a^2 = b^2 + c^2 - 2bc \cos A$$

$$b^2 = a^2 + c^2 - 2ac \cos B$$

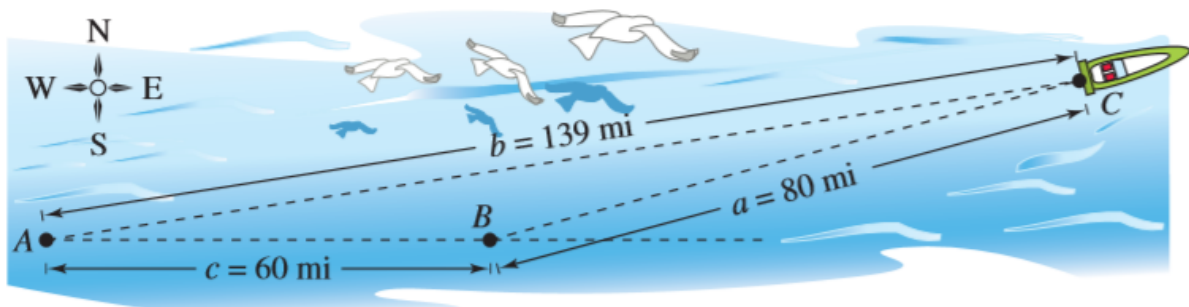
$$c^2 = a^2 + b^2 - 2ab \cos C$$

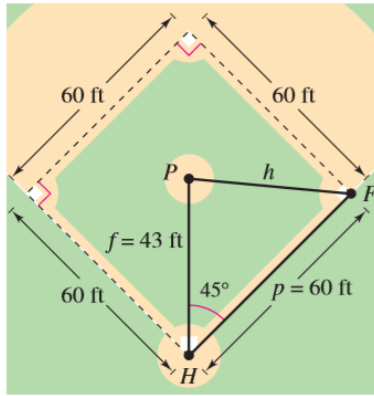
In the law of cosines, always choose the largest side or angle you can solve for first.

Solve $\triangle ABC$ given that $a = 11$, $b = 5$, $C = 20^\circ$

Solve $\triangle ABC$ given that $a = 9$, $b = 7$, $c = 5$

A ship travels 60 miles due east, then adjusts its course northward, as shown in the figure. After traveling 80 miles in that direction, the ship is 139 miles from its point of departure. Describe the bearing from point B to point C.





The pitcher's mound on a women's softball field is 43 feet from home plate and the distance between the bases is 60 feet. (The pitcher's mound is not halfway between home plate and second base.) How far is the pitcher's mound from first base?

Another way to find the area of a triangle

Heron's formula is nice because you don't have to have the height to find the area of a triangle.

Let a , b , and c be the sides of $\triangle ABC$, and let s denote the semiperimeter.

$$s = (a + b + c)/2$$

Then the area of $\triangle ABC$ is given by:

$$\text{Area} = \sqrt{s(s - a)(s - b)(s - c)}$$

Find the area of $\triangle ABC$, Given: $a = 5$, $b = 9$, $c = 7$

Section 6.2 Pgs. 413 - 415

#7, 9, 13, 15, 17, 37, 39, 43, 45, 46, 47, 48, 52, 58, 59, 66