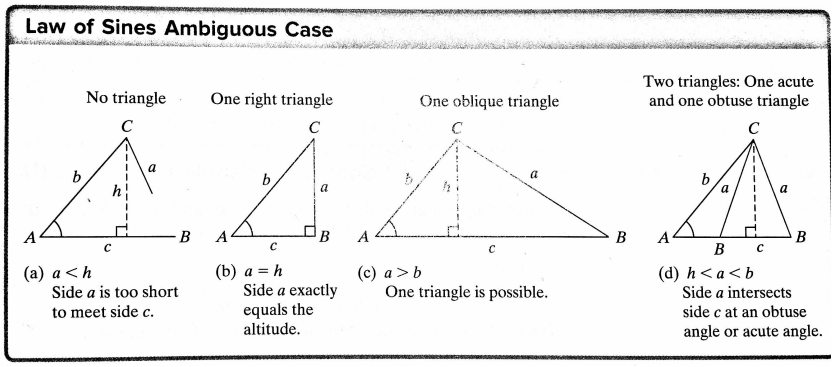
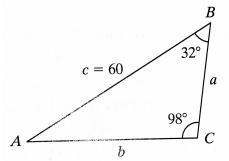
Law of Sines: applies in ASA, AAS/SAA, SSA/ASS (a.k.a. Ambiguous) cases.
Law of Cosines: Applies in SAS and SSS cases.



In the above graphic, $h = b\sin A$ by right triangle trig and **oblique** means "not right."

7.2, # 8,13: Solve the following triangles with side lengths a, b, and c and angles A, B, and C. Give both exact values and approximations to one decimal place.
(a).



(b). $A = 127°$, $B = 34°$, $a = 42$.

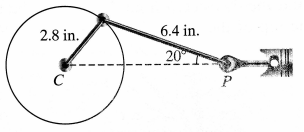
7.2, # 29: Find the area of the triangle ABC with angle $A = 107°$ and sides $a = 17$ft and $b = 3$ft.

7.2, # 21,24,26: For the following potential triangles with side lengths a, b, and c and angles A, B, and C, determine whether the information given defines one triangle, two triangles, or no triangle. Then, solve the resulting triangle(s).
(a). $b = 33$, $c = 25$, $B = 38°$.

(b). $b = 6$, $c = 12$, and $B = 38°$.

(c). $a = 3$, $b = 1$, and $B = 17°$.

7.2, # 51: The connector rod from the piston to the crankshaft in a certain 2.0-L engine is 6.4 in. The radius of the crank circle is 2.8 in. If the angle made by the connector rod with the horizontal at the wrist pin P is 20°, how far is the wrist pin from the center C of the crankshaft? Round to the nearest tenth of an inch.



7.3, # 13,15,21: Solve the following triangles with side lengths a, b, and c and angles A, B, and C if possible. Give both exact values and approximations to one decimal place.

(a). $a = 15$, $b = 12$, $c = 15$.

(b). $a = 27$, $c = 26$, $B = 67.8°$.

(c). $a = 4.4$, $b = 6.2$, $c = 11.1$.

7.3, # 26: Two boats leave the marina at the same time. The first boat travels 6 knots at a bearing of N39°E and the second boat travels 4 knots at a bearing S87°W.
(a). How far apart are the boats at the end of 2 hours?

(b). What is the bearing from the first boat to the second boat at that time?

7.3, # 35: Use Heron's formula to find the area of the triangle with side lengths $a = 13$in, $b = 7$in, and $c = 8$in.