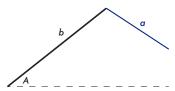




## **Preliminaries**

## Precondition

**SSA** - The law of signs may be ambiguous only when the problem gives you two sides and a *non*-included angle, as at right.



## Quick check for number of triangles

Calculate the length of a perpendicular (h in the diagram at right) from the end of the given adjacent side (b) to the adjacent side not specified (the bottom dashed line).

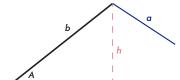
$$h = b \sin(A)$$

 $\triangleright$  h > a no triangle

 $\triangleright h = a$  1 triangle

 $\triangleright$  h < a & a < b 2 triangles (i.e., ambiguous case)

 $\triangleright$  h < a & a > b 1 triangle



## Solve the Triangle

- 1 Solve the triangle, as usual
- 2 If there's an ambiguity:
  - $\triangleright$  Let  $\angle B$  be the 1st angle you solved for in step 1.
  - Subtract m∠B from 180
  - ▶ This is your new  $\angle B$ .
- 3 Solve the triangle again using your new  $\angle B$ .