Precalculus

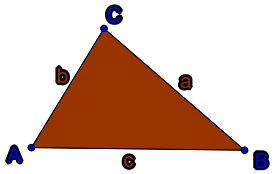
6-01 Law of Sines

Solve a triangle

- Find all _____and _____
- Use Law of Sines if you know
  - _____ (ASA or AAS)
  - _____ (SSA)

Law of Sines

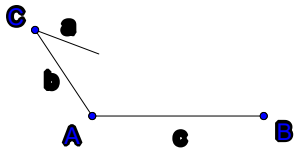
$$\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$$



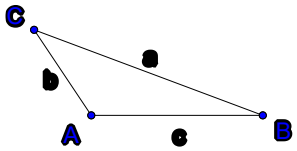
Solve ΔABC where $A = 30°$, $B = 45°$, and $a = 32$ ft

The Ambiguous Case (SSA)

- (Given A, a, b)
- If $A > 90°$ and
  - $a \le b$, then _____ solutions

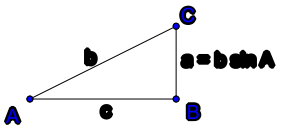


  - $a > b$, then _____ solution

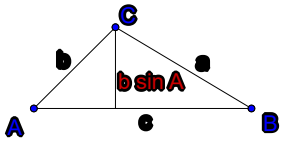


Precalculus 6-01 Name: _____

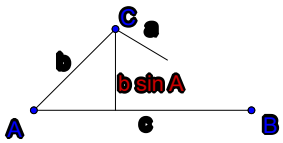
- If A < 90° and
  - $a = b \sin A$, then _____ solution



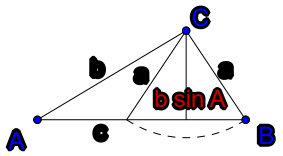
  - $a > b \sin A$ and $a \geq b$, _____ solution



  - $a < b \sin A$, then _____ solutions



  - $b \sin A < a < b$, then _____ solutions



Solve ΔABC where $A = 58°$, $a = 4.5$, and $b = 5$

Area of a Triangle

$$Area = \frac{1}{2}bc \sin A$$

$$Area = \frac{1}{2}ac \sin B$$

$$Area = \frac{1}{2}ab \sin C$$