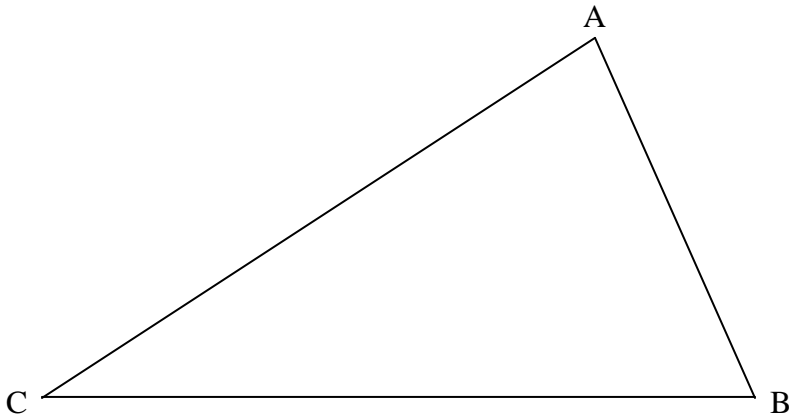


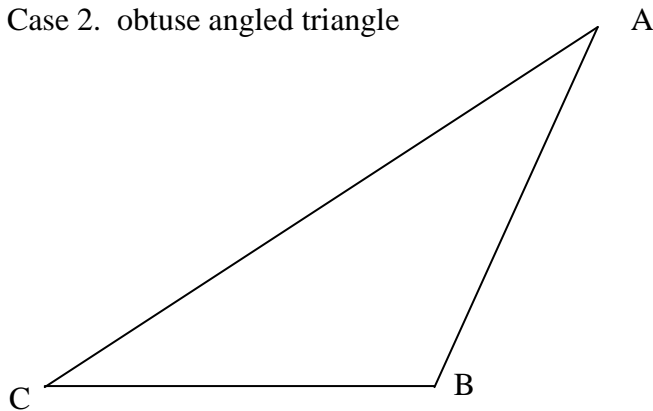
Derive the formula for Sine Law.



To prove Sine Law, we can only pretend to know the Pythagorean Theorem and basic Trig ratios.

- Construct an altitude to point D, and consider two separate right triangles
- List out everything you know about these 2 triangles
- Substitute and re-arrange algebraically until you get Sine Law

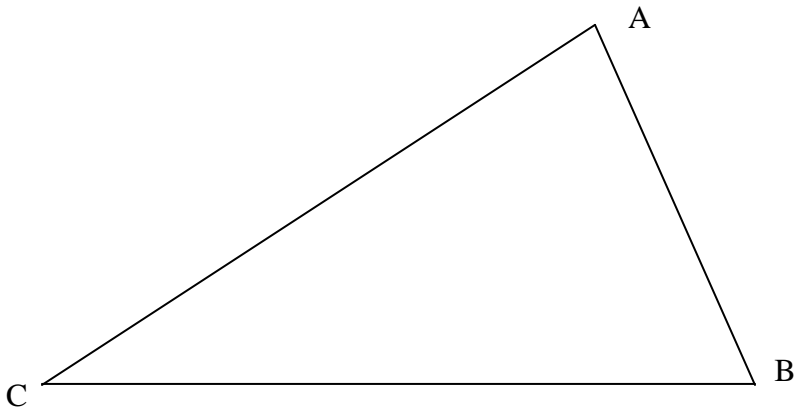
Case 2. obtuse angled triangle



Consider the obtuse angled triangle case. The altitude is outside the triangle.

- Do the same as above
- You should still get the same thing (Sine Law always works, after all.)

Derive the formula for Cosine Law.



To prove Cosine Law, again, we can only pretend to know the Pythagorean Theorem and basic Trig ratios.

- Construct an altitude to point D, and consider two separate right triangles
- List out everything you know about these 2 triangles (Here, Pythagorean Theorem is really important!)
- Substitute and re-arrange algebraically until you get Cosine Law