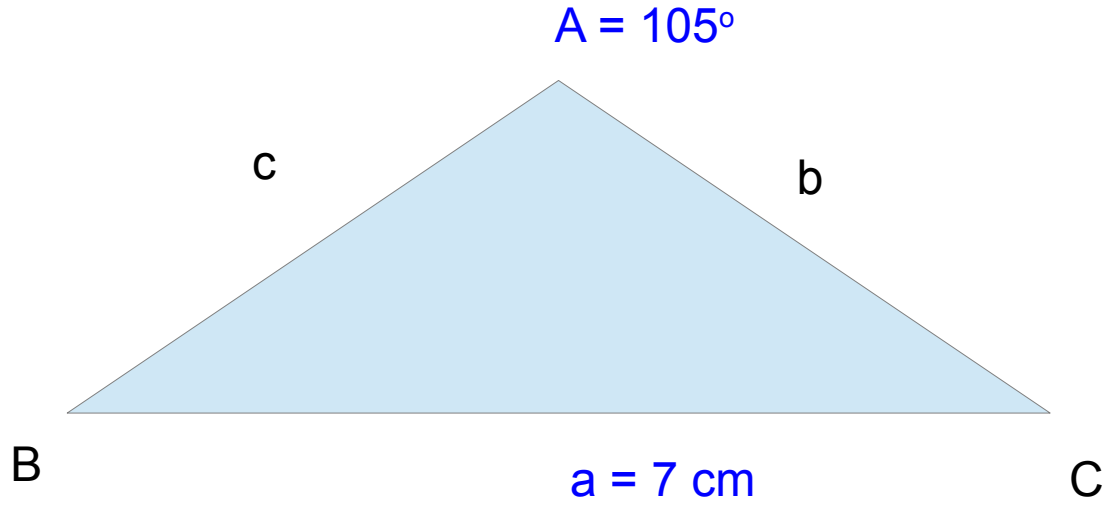
SINE Investigation

-- For any triangle



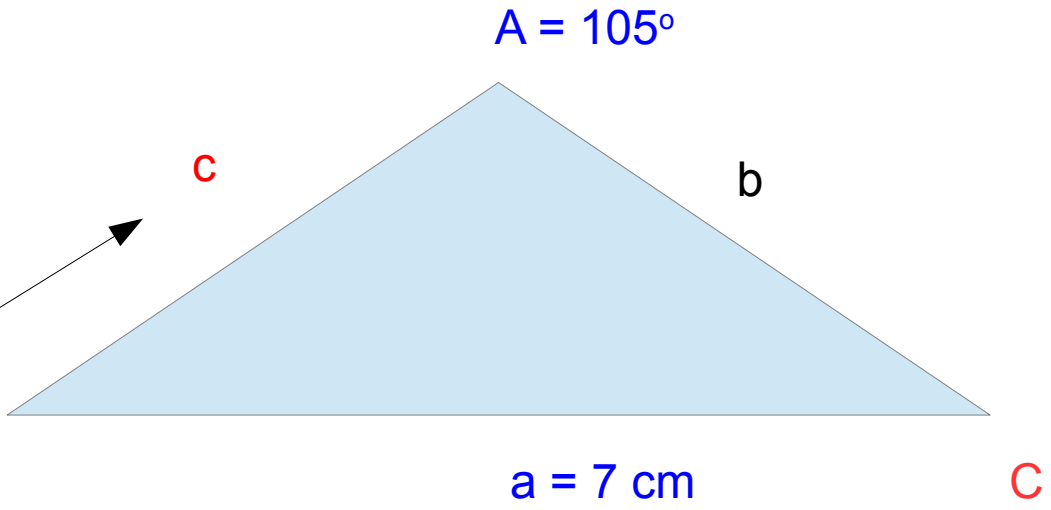
Once we measured the sides, and the angles
We found:

$$\frac{a}{SIN(A)} = 7 / SIN(105) = 7 / 0.9659$$

$$= \mathbf{7.2}$$

SINE Investigation

-- For any triangle



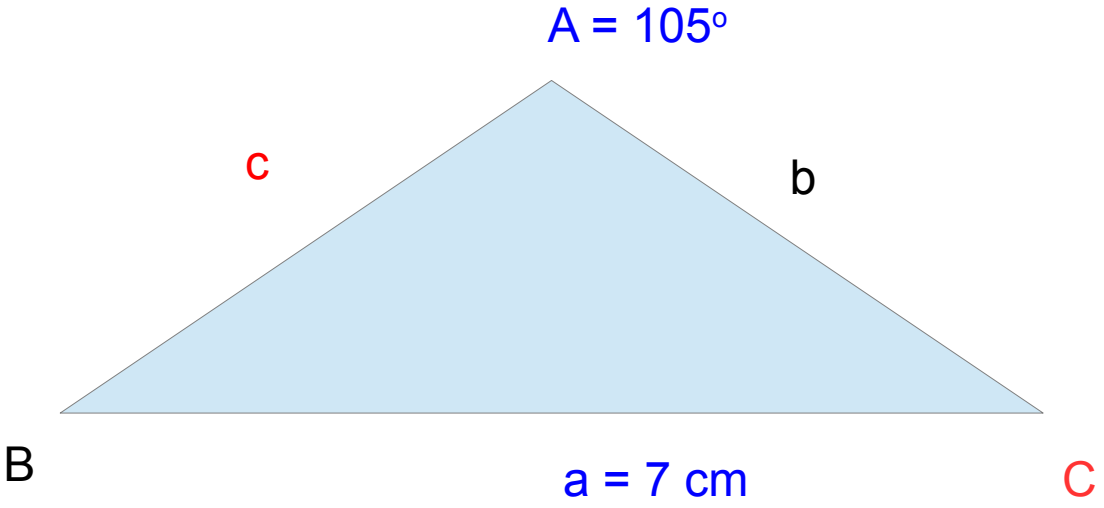
Side c is smaller than side a, so it's corresonding angle C will be smaller than angle A

We measure C and get 30°

$$\frac{c}{SIN\ (C)} = \frac{3.6}{SIN(30)} = \mathbf{7.2}$$

SINE Investigation

We notice that the relationships both were 7.2



a / Sin(A) = 7 / Sin(105°) = **7.2**

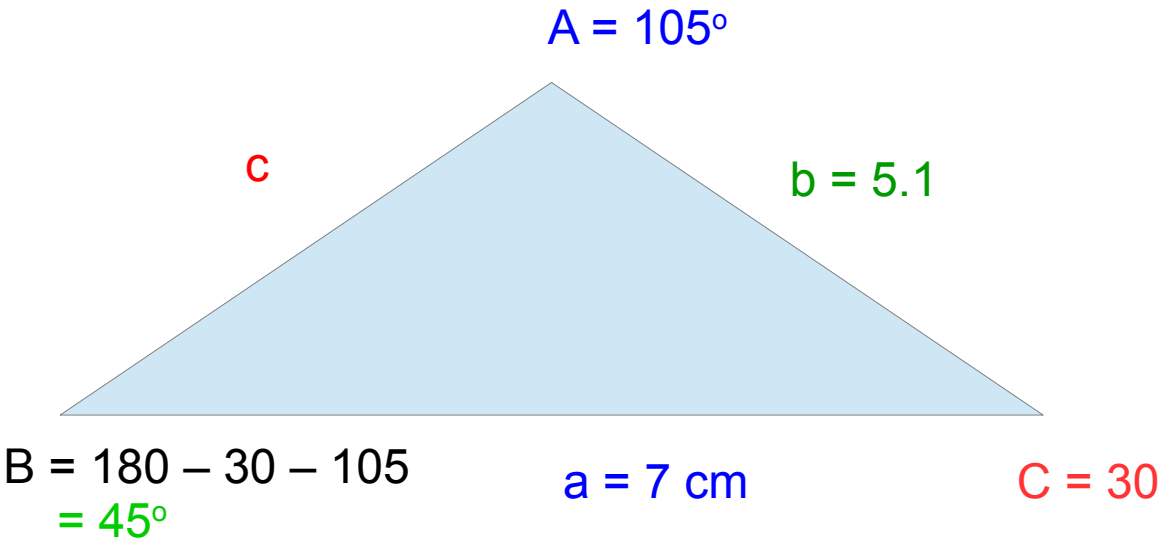
c / Sin(C) = 3.6 / Sin(30°) = **7.2**

This does NOT mean that every side and angle Will have a relationship of 7.2.

However, it DOES mean that for each triangle the relatonship between any side and ITS OWN angle will be the same as the other sides

SINE Investigation

What can we say about side b?



a / Sin(A) = 7 / Sin(105°) = **7.2**

c / Sin(C) = 3.6 / Sin(30°) = **7.2**

b / Sin(B) = **7.2**
b / Sin(45) = **7.2**

b = 7.2 * Sin(45)

b = 5.1

This does NOT mean that every side and angle Will have a relationship of 7.2.

However, it DOES mean that for each triangle the relatonship between any side and ITS OWN angle will be the same as the other sides

SINE Law

For any triangle with angles A,B, and C and sides a, b, and c, this is true:

$$\mathbf{a / Sin(A) = b / Sin(B) = c / Sin(C)}$$