**LEARNING GOALS**

**By the end of today’s lesson I will be able to:**

1. Remember the Sine and Cosine Laws
2. Recognize which situations require the use of which law
3. Understand and identify the AMBIGOUS CASE

When we are working with non-right trianges we cannot use

SOH CAH TOA to find missing values. Instead we must analyze the situation and use either \_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_ Laws.

**COSINE LAW**

We use this when we know

--> \_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_\_\_ and the \_\_\_\_\_\_\_\_\_\_ angle

 (the angle \_\_\_\_ \_\_\_\_\_\_\_\_\_ them)

--> \_\_\_\_ \_\_\_\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_\_

Given the following triangle

EXAMPLE 1

 Given triangle ABC in which a=51cm <B = 39o and c=42cm, find the length of side b.

EXAMPLE 2

Given triangle QRS find the measure of the largest angle.

**SINE LAW**

We use this law when we know:

--> \_\_\_\_ \_\_\_\_\_\_ and an \_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ one of them

--> \_\_\_\_\_ \_\_\_\_\_\_\_\_ and \_\_\_\_\_ \_\_\_\_\_\_

Given the following triangle

EXAMPLE 1

In triangle ABC, <A=32.5o, <B = 110.9o, and c = 88cm

Solve the triangle (find all sides and angles).

EXAMPLE 2

In triangle QRS q=63cm, s=47cm, and <S=38.4o.

Solve the triangle.

HW P.325 1, 2, 3bd, 4bc, 5, 6, 10 (Cosine Law)

 P.318 1, 2, 3ac, 5bd, 7, 8 (Sine Law)