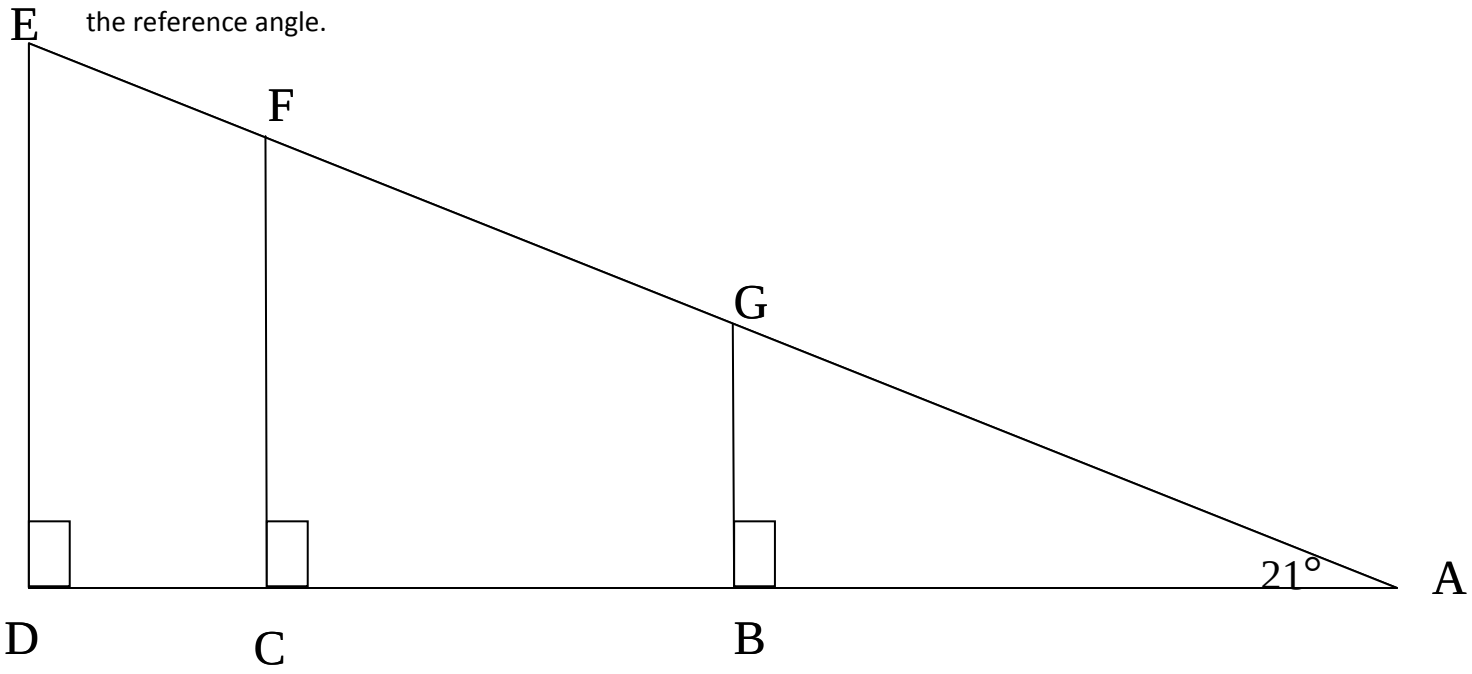
Name:_____ Date:_____ Period:_____

A) Observe the triangle below and label the hypotenuse, opposite side and adjacent side with respect to the reference angle.



B) Use a ruler to find the measure of the sides of all three right triangles. Use the chart below to record your data for each triangle. Calculate the missing angle measures of each triangle.

ΔEAD	ΔFAC	ΔGAB
∠ EAD ≈	∠ FAC ≈	∠ GAB ≈
∠ ADE ≈	∠ ACF ≈	∠ ABG ≈
∠ DEA ≈	∠ CFA ≈	∠ BGA ≈
Segment EA ≈	Segment FA ≈	Segment GA ≈
Segment AD ≈	Segment AC ≈	Segment AB ≈
Segment DE ≈	Segment CF ≈	Segment BG ≈

For each triangle, form ratios using its segment lengths, then write them in decimal form:

ΔGAB: $\frac{GA}{AB} =$ $\frac{GA}{BG} =$ $\frac{AB}{GA} =$ $\frac{AB}{BG} =$ $\frac{BG}{GA} =$ $\frac{BG}{AB} =$

ΔFAC: $\frac{FA}{AC} =$ $\frac{FA}{CF} =$ $\frac{AC}{FA} =$ $\frac{AC}{CF} =$ $\frac{CF}{FA} =$ $\frac{CF}{AC} =$

ΔEAD: $\frac{EA}{AD} =$ $\frac{EA}{DE} =$ $\frac{AD}{EA} =$ $\frac{AD}{DE} =$ $\frac{DE}{EA} =$ $\frac{DE}{AD} =$

Name:_____ Date:_____ Period:_____

C) Write a sentence describing what you notice about your data.

D) After comparing your data with the data of your group, what do you notice about your group's data?

E) Create a hypothesis about the relationships among the length of the sides of the right triangles based on the information that your group gathered and discussed. Get ready to do the Commit and Toss activity.

F) Using your scientific calculator, Press the SIN key. Then enter the reference angle you used above. The key strokes/order of entry may be different on different types of calculators. Write your answer in the appropriate box. Repeat using COS and TAN keys.

Triangle Name	Reference angle measure	Sin	Cos	Tan
Ex: ΔCUB	angle U = 55°	0.8192	.5736	1.4281
1.Δ**GAB**	21°			
2.	21°			
3.	21°			
4.**ΔGAB**	°			
5.**ΔFAC**	°			
6.	°			
7.**ΔGAB**	°			
8.	°			
9.**ΔEAD**	°			

G) Compare your two charts. What do you notice? How can this be helpful?

H) Compare your findings with your group and write what you discover.

Name:_____ Date:_____ Period:_____

I) Based on this activity, what is the ratio for Sin A where A is a variable that represents an angle measure? Cos A? Tan A? *Hint: Use both of your charts and write a ratio using the location of the segments!!

J) How would your answers from your chart change if you used the other acute angle in the triangle to do this activity?