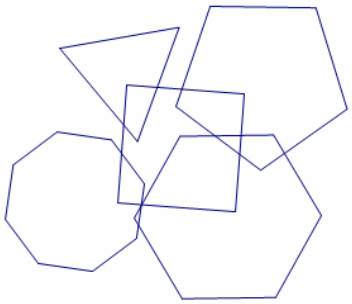
Polygons Rule: Data Collection



Using the polygons provided, measure in ***centimeters*** attributes and fill in the data on the appropriate table.

Triangles Rule

	Side Length	Radius Length	Apothem Length	Perimeter	Area	Vertex Angle	Central Angle
A							
B							
C							
D							
E							
F							
G							
H							

Squares Rule

	Side Length	Radius Length	Apothem Length	Perimeter	Area	Vertex Angle	Central Angle
A							
B							
C							
D							
E							
F							
G							
H							

Pentagons Rule

	Side Length	Radius Length	Apothem Length	Perimeter	Area	Vertex Angle	Central Angle
A							
B							
C							
D							
E							
F							
G							
H							

Hexagons Rule

	Side Length	Radius Length	Apothem Length	Perimeter	Area	Vertex Angle	Central Angle
A							
B							
C							
D							
E							
F							
G							
H							

Octagons Rule

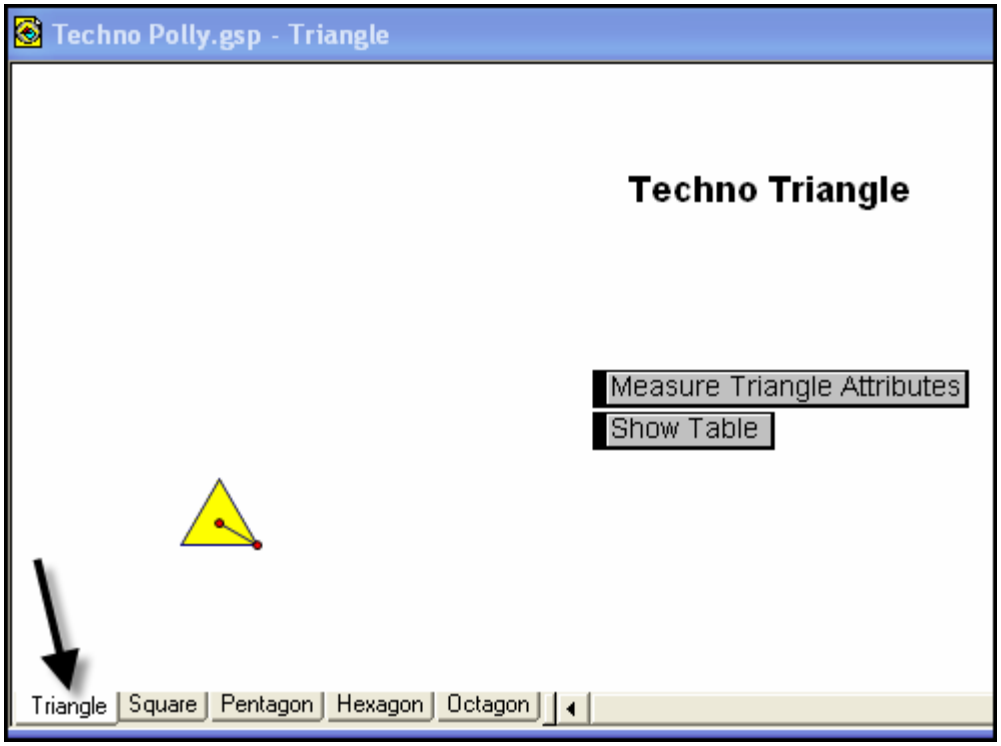
	Side Length	Radius Length	Apothem Length	Perimeter	Area	Vertex Angle	Central Angle
A							
B							
C							
D							
E							
F							
G							
H							

Polygons Rule: Questions About Data

Data Source	Rulers
How would you describe this set of data? Why?	
What relationships occur within this set of data? Why?	
How would you represent this data? Why?	
What question(s) can we pose to students that this set of data helps to answer?	
How might this data extend what students already understand about our course content?	

Techno Polly: Data Collection

Open the sketch, **Techno Polly.** Notice the tabs at the bottom of the sketch that say **Triangle**, **Square**, **Pentagon**, **Hexagon** and **Octagon** respectively. Use the same set of direction for each tab, working through them sequentially.



1. Click on the Measure Attributes button. What happens?

2. Click on the Show Table button.

3. Double click on the table to add another row, and then drag the vertex of the polygon increasing the length of the side to approximately 2 cm. What do you observe?

4. Double click on the table again to add another row, and then drag the vertex of the polygon, increasing the length of the side to approximately 3 cm. What do you observe?

5. Repeat this process until you have 8 rows in your table, increasing the side length of the polygon by approximately 1 cm each time.

6. Repeat the above steps for each polygon.

7. To view your data use the tabs at the bottom to transfer from data set to data set.

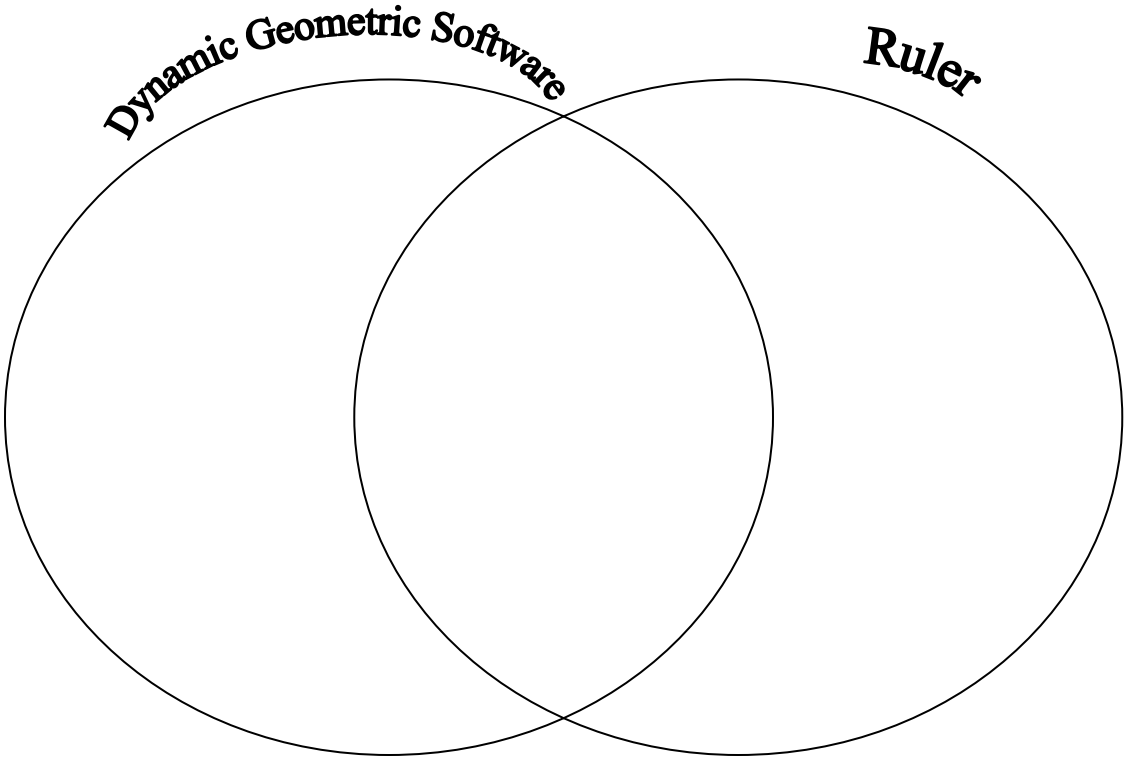
8. Upon exiting the Geometer's Sketchpad, the program will ask if you wish to save…select NO.

Techno Polly—Questions About Data

Data Source	Geometer's Sketchpad
How would you describe this set of data? Why?	
What relationships occur within this set of data? Why?	
How would you represent this data? Why?	
What question(s) can we pose to students that this set of data helps to answer?	
How might this data extend what students already understand about our course content?	

Reflections on Data

Complete the following Venn diagram to compare and contrast the uses of the dynamic geometric software and a ruler as data sources.



What are the benefits of using data derived from the dynamic geometric software?

What are the benefits of using data derived from actual measurement?

How might these data sources function in a geometry classroom?

Debriefing the Exploration of Data

1. What questions can we ask as reflective practitioners to determine the effectiveness of a data source for promoting mathematical learning?

2. How does the technology-based data offer an opportunity to strengthen mathematical learning?

3. What paper-and-pencil methods do students need to know to make sense of the data we explored?

4. How do you define the use of technology in your classroom?

Polly Polly In Come Free Intentional Use of Data

TEKS			
Question(s) to Pose to Students	Math		
	Tech		
Cognitive Rigor		Knowledge	
		Understanding	
		Application	
		Analysis	
		Evaluation	
		Creation	
Data Source(s)		Real-Time	
		Archival	
		Categorical	
		Numerical	
Setting		Computer Lab	
		Mini-Lab	
		One Computer	
		Graphing Calculator	
		Measurement Based Data	
Bridge to the Classroom			