Name_____

Honors Geometry **Ch 11 Notes Packet**

Sec 11.1 – 3: Areas of Paralleograms, Triangles, Trapezoids, Rhombii, Kites, Circles and Sectors

After this section you will have completed the following Common Core State Standard(s):

- **G.GPE.7: Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.★.**
- **G.MG.3: Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).★**
- **G.C.5: Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.**
- **G.GMD.1: Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone.**

And will be improving your skills in the following Mathematical Practice(s):

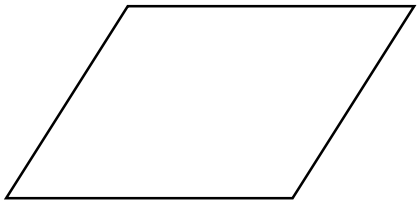
1. Make sense of problems and persevere in solving them
6. Attend to precision
7. Look for and make use of structure

Specifically, you should be able to:

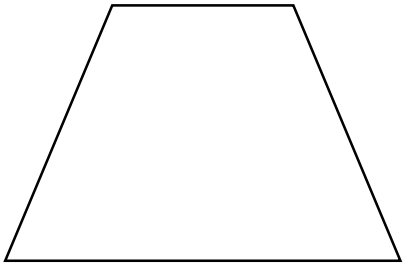
- **Find perimeters and areas of parallelograms**
- **Find perimeters and areas of triangles**
- **Find perimeters and areas of trapezoids**
- **Find perimeters and areas of rhombii**
- **Find perimeters and areas of kites**
- **Find perimeters and areas of circles**
- **Find perimeters and areas of sectors**

Postulate 11.1 – Area Addition Postulate: The area of a region is the sum of its non-overlapping parts.

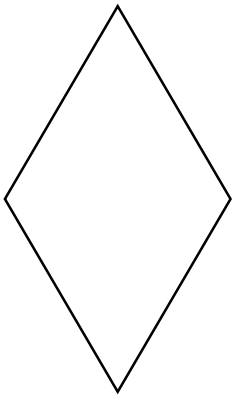
Parallelograms



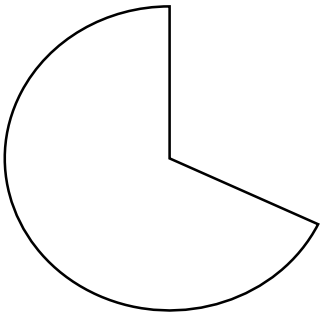
Trapezoids



Kites + Rhombi



Circles + Sectors



Examples:

Sec 11.4: Areas of Regular Polygons

After this section you will have completed the following Common Core State Standard(s):

- **G.MG.3: Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).★**

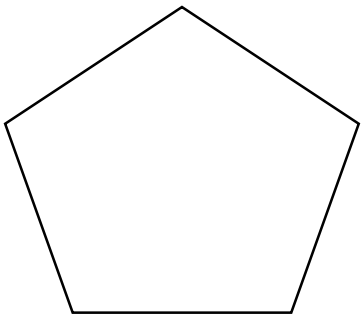
And will be improving your skills in the following Mathematical Practice(s):

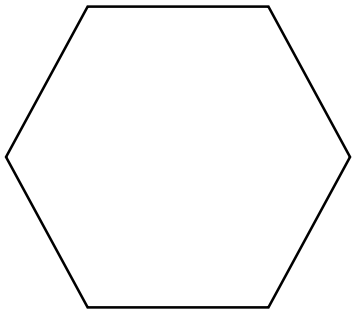
1. Make sense of problems and persevere in solving them
2. Reason abstractly and quantitatively
4. Model with mathematics
6. Attend to precision

Specifically, you should be able to:

- **Find perimeters and areas of regular polygons**
- **Find perimeters and areas of composite figures**

Regular Polygons





Examples:

Sec 11.5: Areas of Similar Figures

After this section you will have completed the following Common Core State Standard(s):

- **G.MG.1: Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).★**

And will be improving your skills in the following Mathematical Practice(s):

1. Make sense of problems and persevere in solving them
3. Construct viable arguments and critique the reasoning of others
4. Model with mathematics

Specifically, you should be able to:

- **Find areas of similar figures using scale factors**
- **Find scale factors or missing measures given the areas of 2 similar figures**

If two polygons are similar with a scale factor of a:b or $\frac{a}{b}$, then the ratio of their perimeters is:

and the ratio or their areas is:

Examples: