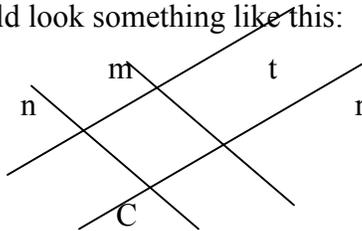


**Parallel, Perpendicular Lines, Slope, Angle Measure, Perimeter, Area of Polygons**

**I. SKETCH**

1. Open the *Geometer's Sketchpad*. Under **Display**, click on **Preferences**. Click **Auto Show Labels for Points and Straight Objects**. Click OK. Under **Graph**, click **Show Grids**. Click **Graph, Plot Points**. Now enter Points ( -1, 2 ) and then ( 2, -2 ) using the **tab** button to move from the x to the y coordinate. Click OK. What happened?  
\_\_\_\_\_
2. Now click **Construct, Segment**. What happened ? \_\_\_\_\_
3. **Graph** Point ( -2, 0). Highlight that point, hold down shift and also click somewhere on the line segment. Click **Construct, Parallel Line**. What happened? \_\_\_\_\_
4. Now highlight the point ( -2, 0 ), Shift and highlight the original line segment. Click on **Construct**, then **Perpendicular line**. What happened? \_\_\_\_\_
5. Find another point on your line m. Highlight it, shift, and point the arrow to the your line n .Click **Construct , Perpendicular**. Results? \_\_\_\_\_  
Your graph should look something like this:

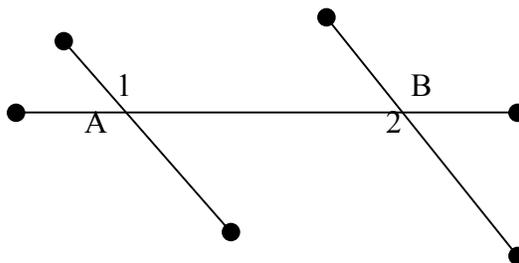


6. Now highlight each line one at a time. Click **Measure, Slope**. List all slopes  
\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_  
What do you notice about the slopes? \_\_\_\_\_
7. Now highlight ( -2, 0) and a point on your line m. Now Click **Measure distance** Result.\_\_\_\_\_. Do the same for your **point C** and your line m .Click **Measure, Distance**. Result \_\_\_\_\_. What do you notice about the distances?  
\_\_\_\_\_

8 Add your name to the sketch (Click **hand icon**, click a space on the screen, hold down mouse and create a box to write your name in) Print it out. Turn in with this worksheet.

## II. NEW SKETCH

- Using the **segment icon**, draw the following figure, try not to let them be perpendicular.



- Using the arrow icon and shift, measure your angle 1 by selecting the three points that make up angle 1, **the vertex must be selected second**. Click **Measure**, **Angle**. Result \_\_\_\_\_ . Now do the same for your angle 2. Result \_\_\_\_\_
- What can you conclude about your lines and why? \_\_\_\_\_  
(Add our name, Print out the sketch)

## III. NEW SKETCH

- Construct a triangle either by 3 points, highlight any two, Click **Construct**, **Segment** for each **OR** by using **segment icons**. Now with the arrow icon, highlight all three vertices, Click **Construct**, **polygon interior**, **Measure Area** \_\_\_\_\_ **Measure Perimeter** \_\_\_\_\_
- Now Click **Display color** and add color to your sketch. With the segment icon, construct a quadrilateral. With the arrow icon, highlight the four vertices, Click **Construct** the **Polygon interior** and find **Area** \_\_\_\_\_ and **perimeter** \_\_\_\_\_

Now repeat these steps for:

- A pentagon: Area \_\_\_\_\_ Perimeter \_\_\_\_\_
- A Hexagon: Area \_\_\_\_\_ Perimeter \_\_\_\_\_
- Add your name to the sketch and Print it out.

## IV. NEW SKETCH

Create a sketch of your own using color. Print it out and Get me to sign here \_\_\_\_\_.

**Shut down Geometer's Sketchpad when you finish.**