**7.3 GEO Notes**                                                        **Date:** _____

## Polygon Worksheet

For each shape below: 1) Determine the number of *triangles (triangles should not overlap)*
                                     2) Find the *sum of the interior angles*
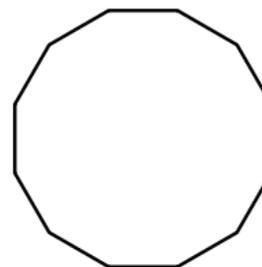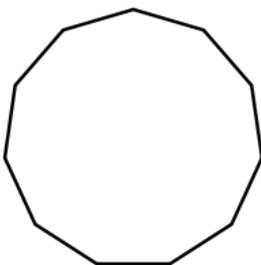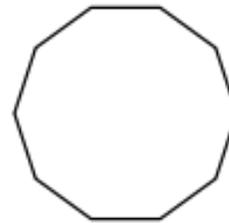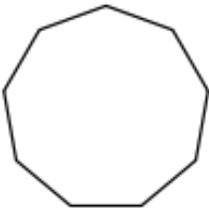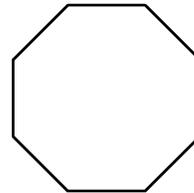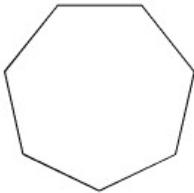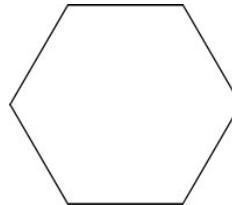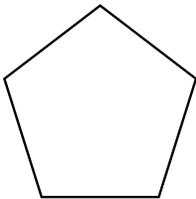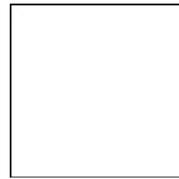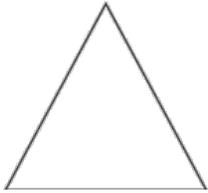
## Polygon Worksheet

For each shape below: 1) Determine the number of *diagonals (should create star design)*
                                    2) Determine each shape's *proper name*
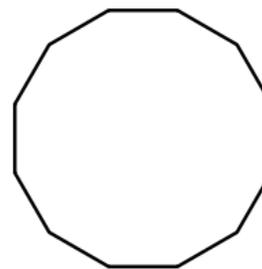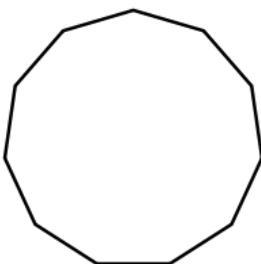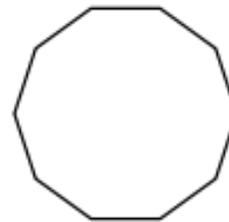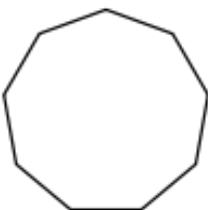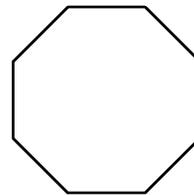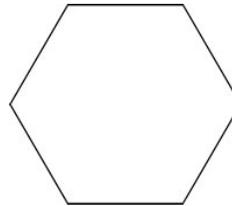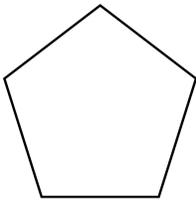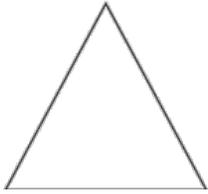
**7.3 GEO Notes**                                    Date: _____

I. Polygon worksheet
    1.  To the right of each figure, write its proper name.
    2.  Pick a vertex and then draw the diagonals to all non-consecutive vertices.

II. Chart
    1.  Fill in the chart below:

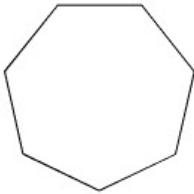| Name of polygon | # of sides | # of diagonals | # of triangles | Sum of angles |
|---|---|---|---|---|
| Triangle | | | | |
| Quadrilateral | | | | |
| Pentagon | | | | |
| Hexagon | | | | |
| Heptagon | | | | |
| Octagon | | | | |
| Nonagon | | | | |
| Decagon | | | | |
| Hendagon | | | | |
| Dodecagon | | | | |
| N-gon | | | | |

| **Formula:** Sum of the interior angles of any polygon | |
| --- | --- |
| | |

| **Formula:** Number of diagonals that can be drawn in a polygon | |
| --- | --- |
| | |

| **Formula:** Sum of the exterior angles of any polygon | |
| --- | --- |
| | |

Practice

1. Given: a pentadecagon.
   a. Find the sum of the interior angles:




   b. Find the number of diagonals:




   c. Find the sum of the exterior angles:

2. What is the name of a polygon if the sum of the measures of its angles is 1080?

3. If a polygon has 35 diagonals, what is the name of the polygon?

4. How many sides does a polygon have if the sum of the measures of its angles is 1440?

5. Do #8 from HW.