**6.1 Polygons**

VOCABULARY:

**Polygon, side, vertex:** A polygon is a plane figure that is formed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or more \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ called sides. Each side intersects exactly two other sides at each of its \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Each \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a vertex of the polygon.

**Diagonal of a Polygon:** A segment that joins two \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ vertices of a polygon is a diagonal of the polygon.

**Draw any polygon ABCD.**

 Name all the vertices:

 Name all the sides:

Name the diagonals:

Example 1:

Is the figure a Polygon? Explain your reasoning.

a. b. c.

|  |  |  |  |
| --- | --- | --- | --- |
| **Triangle**\_\_\_\_\_ sides |  | **Hexagon**\_\_\_\_\_ sides |  |
| **Quadrilateral**\_\_\_\_\_ sides |  | **Heptagon**\_\_\_\_\_ sides |  |
| **Pentagon**\_\_\_\_\_ sides |  | **Octagon**\_\_\_\_\_ sides |  |

Example 2:

Decide whether the figure is a polygon. If so, tell what type, if not, explain why.

a. b. c.

**Theorem 6.1 QUADRILATERAL INTERIOR ANGLES THEOREM:**

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**Words:** The sum of the angle measures of a quadrilateral is \_\_\_\_\_\_\_\_\_.

1

**Symbols:** $m∠1+ m∠2+ m∠3+ m∠4=\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_$.

3

2

Example 3: Find the measure of ∠S Example 4: Find the measure of ∠A

 

Example 5: Find the measure of ∠A Example 6: Find the measure of ∠A

 