**Unit 5 #5 Isosceles Triangle Theorem**

**Isosceles Triangle:** A triangle with at least \_\_\_\_\_\_\_\_\_\_ sides and angles congruent.



**Isosceles Triangle Theorem:** If two sides of a triangle are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, then the angles opposite those sides are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Example: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Example 1:** If $\overbar{DE}≅\overbar{CD}$, $\overbar{BC}≅\overbar{AC}$,and *m∠CDE* = 120o, what is the measure of *∠BAC*?

**Example 2:** Find *x*, $\overbar{JM}$*,* $\overbar{MN}$*,* and *JN* if ∆*JMN* is an isosceles triangle with *∠J ≅ ∠N*.

**Example:**

**Converse to Isosceles Triangle Theorem:** If two angles of a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are congruent, then the sides opposite those angles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

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**Example 3:**

a.) Name all of the congruent angles. b.) Name all of the congruent segments.

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**Example 4:** Find the measures of angles 1, 2, 3, and 4.