Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Table #: \_\_\_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_

**7.1A Adjacent and Vertical Angles\_Classwork**

*Objective: identify adjacent and vertical angles; find angle measures using adjacent and vertical angles. CC.SS.7.G.5*

*HW: 7.1A worksheet*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **ADJACENT ANGLES**Two angles are adjacent angles when they \_\_\_\_\_\_\_\_\_\_\_\_\_\_ a common side and have the \_\_\_\_\_\_\_\_\_\_\_\_\_ vertex.

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| --- | --- |
| **EXAMPLE 1** | Two examples for adjacent angles:Two examples for non-adjacent angles:  |

 ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++**VERTICAL ANGLES**Two angles are vertical angles when they are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ angles formed by the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of two lines. Vertical angles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ angles, meaning they have the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ measure.

|  |  |
| --- | --- |
| **EXAMPLE 2** | Two examples for vertical angles:Two examples for non-vertical angles:  |

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++**LINE:***A straight line that as a measurement of \_\_\_\_\_\_\_\_\_. Two angles that form a straight line is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.*

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| --- | --- |
| **EXAMPLE 3** | Two examples for linear pairsTwo examples for non-linear pairs:  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **EXAMPLE 4** | *There are different ways to write angle notation:* $∡1 or ∡XWY$

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| --- | --- | --- | --- |
| $$∡1$$ | $$∡XWY$$*or*$$∡YWX$$ | $∡1$ *is adjacent to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_* | $∡1$ *and \_\_\_\_\_\_\_\_\_\_\_\_\_ are vertical angles* |
| $$∡2$$ |  |  |  |
| $$∡3$$ |  |  |  |
| $$∡4$$ |  |  |  |

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|  |  |
| --- | --- |
|  | Image result for perpendicular lines |

**EXAMPLE 5** Name two pairs of adjacent angles and two pairs of vertical angles in the figure.

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| --- | --- | --- | --- |
| 1. | Adjacent Angles: \*\*Vertical Angles\*\*  | 2. | Adjacent Angles: \*\*Vertical Angles\*\*  |

**EXAMPLE 6** Draw a pair of adjacent angles with the given description.

|  |  |  |
| --- | --- | --- |
| 1. Both angles are acute
 | 1. One angle is acute, and one is obtuse.
 | 1. The sum of the angle measures is 135°.
 |

**EXAMPLE 7** Use the diagram below to determine whether the statement is ALWAYS, SOMETIMES, or NEVER TRUE. Explain why.

|  |  |
| --- | --- |
|  | 1. When the measure of ∠1 is 70°, the measure of ∠3 is 110°.
2. When the measure of ∠4 is 120°, the measure of ∠1 is 60°.
3. ∠2 and ∠3 are congruent.
4. The measure of ∠1 plus the measure of ∠2 equals the measure of ∠3 plus the measure of ∠4.
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