Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class Date:

PART 1: *Match each word with its definition from the bank below:*

|  |  |
| --- | --- |
| Definition | Word |
| 1. Two angles whose sum measures 90˚
 |  |
| 1. Angles that are directly opposite each other at two intersecting lines. These angles are congruent.
 |  |
| 1. Angles that are on the inside of two parallel lines cut by a transversal, and are located on opposite sides of the transversal line. These angles are congruent.
 |  |
| 1. Angles which are directly next to each other.
 |  |
| 1. Congruent angles that are created where a transversal crosses two other parallel lines. These angles, one exterior and one interior, are located in the same place at each intersection and on the same side of the transversal.
 |  |
| 1. Lines that lie in the same plane and remain the same distance apart. These lines will never touch.
 |  |
| 1. A line that cuts two parallel lines.
 |  |

Word Bank:

|  |  |  |
| --- | --- | --- |
| 1. Adjacent
2. Transversal
3. Vertical
 | 1. Alternate Interior
2. Supplementary
3. Complementary
 | 1. Parallel Lines
2. Alternate Exterior
3. Corresponding
 |

Identify the angle relationship in each figure:

|  |  |
| --- | --- |
| 8.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 9.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 10. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 11. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| 12.  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  13. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

14. ***What is the measure of the angle marked with the question mark?*** Explain how you found your answer.

 \_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. In a given triangle, the measures of two of the interior angles are given. ***What is the measure of the third unidentified angle?***

Answer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

***Show your work:***

1. Cindy told her teacher that, in the picture to the right, the measure of ***angle b*** was 60° and the measure of ***angle d*** was 30°. ***Critique Cindy’s response using your knowledge of angle relationships.***

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1. ***What are the measures of angles a and b in the figure to the left? Explain below how you determined your answer.***

m<a = \_\_\_\_\_\_\_\_\_\_ m<b = \_\_\_\_\_\_\_\_\_\_\_\_

Explain:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



1. Given the information in the figure to the right, ***find the value of x.***

Show your work:

X = \_\_\_\_\_\_ °

1.  m∟b = (3x + 40)º

m∟d = 2(x + 20)º

***What is the measure of angles b and d? Show your work:***

**ANSWER:**



1. What is the measure ***of angle b in degrees***? *Show your work!*

 m∟a = (5x – 10) º

 m∟b = 2 (x + 40)º

**ANSWER:**

***Challenge:*** *Find the angle measure in degrees of the angle labeled with the question mark in the figure.*