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Angle Pair Relationships Worksheet

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Part 1: Building a Foundation

What is the sum of the measures of two complementary angles?

Hint: Think about the definition of complementary angles.

◯ 90 degrees
◯ 180 degrees
◯ 360 degrees
◯ 45 degrees

Which of the following are properties of vertical angles?

Hint: Consider the characteristics of angles formed by intersectING lines.

☐ They are adjacent.
☐ They are congruent.
☐ They form a linear pair.
☐ They are opposite each other when two lines intersect.

Explain the difference between supplementary and complementary angles.

Hint: Think about the sums of the angles.

List the types of angle pairs that can be formed when two lines intersect.

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Hint: Consider the relationships between angles formed.

1. What are vertical angles?

> [ ]

2. What are adjacent angles?

> [ ]

3. What are linear pairs?

> [ ]

Part 2: Comprehension and Application

If two angles form a linear pair, what is their relationship?

Hint: Think about the definition of linear pairs.

- ◯ They are complementary.
- ◯ They are supplementary.
- ◯ They are vertical angles.
- ◯ They are adjacent but not supplementary.

Which of the following statements are true about adjacent angles?

Hint: Consider the properties of angles that share a side.

- ☐ They always form a linear pair.
- ☐ They share a common vertex.
- ☐ They do not overlap.
- ☐ They are always equal.

Describe how you can identify complementary angles in a geometric figure.

Hint: Think about the sum of the angles.

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Two angles are supplementary. If one angle measures 65 degrees, what is the measure of the other angle?

Hint: Remember that supplementary angles sum to 180 degrees.

○ 25 degrees
○ 115 degrees
○ 135 degrees
○ 95 degrees

Using algebra, solve for x if two angles are complementary and one angle is represented as (2x + 10) degrees and the other as (3x - 20) degrees.

Hint: Set up the equation based on the definition of complementary angles.

Part 3: Analysis, Evaluation, and Creation

In a geometric figure, two lines intersect creating four angles. If one angle measures 70 degrees, what is the measure of its vertical angle?

Hint: Vertical angles are always equal.

○ 110 degrees
○ 70 degrees
○ 140 degrees
○ 90 degrees

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Which of the following pairs of angles are always supplementary?

Hint: Consider the definitions of angle pairs.

☐ Vertical angles
☐ Angles in a linear pair
☐ Adjacent angles
☐ Complementary angles

Analyze the relationship between adjacent angles and linear pairs. How do they differ and how are they similar?

Hint: Think about their definitions and properties.

Which scenario best demonstrates the use of complementary angles in real life?

Hint: Consider practical applications of angles.

○ DesignING a rectangular garden
○ ConstructING a right-angled triangle
○ Building a circular fountain
○ Laying out a straight road

Evaluate the following statements and identify which are correct regarding angle pair relationships:

Hint: Think critically about each statement.

☐ All adjacent angles are supplementary.
☐ Vertical angles are always equal.
☐ Complementary angles can be adjacent or non-adjacent.
☐ Linear pairs always sum to 180 degrees.

Create a real-world problem involving supplementary angles and provide a solution. Include a diagram to illustrate your problem.

Hint: Think about a scenario where angles are relevant.

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