

# Complementary Supplementary Angles Worksheet Questions and Answers PDF

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## Part 1: Building a Foundation

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

*Hint: Think about the definition of complementary angles.*

- A) 45 degrees
- B) 90 degrees ✓
- C) 180 degrees
- D) 360 degrees

■ The sum of two complementary angles is always 90 degrees.

**What is the sum of the measures of two supplementary angles?**

*Hint: Consider the definition of supplementary angles.*

- A) 45 degrees
- B) 90 degrees
- C) 180 degrees ✓
- D) 360 degrees

■ The sum of two supplementary angles is always 180 degrees.

**Which of the following statements are true about complementary angles?**

*Hint: Think about the properties of complementary angles.*

- A) They always form a right angle. ✓
- B) They can be adjacent or non-adjacent. ✓
- C) Their sum is 180 degrees.
- D) They are used in right triangles. ✓

Complementary angles always sum to 90 degrees and can be adjacent or non-adjacent.

**Explain in your own words what makes two angles supplementary.**

*Hint: Consider the definition and properties of supplementary angles.*

**Two angles are supplementary if their measures add up to 180 degrees.**

**List two properties of supplementary angles.**

*Hint: Think about the definitions and characteristics of these angles.*

1. Property 1

They sum to 180 degrees.

2. Property 2

They can be adjacent or non-adjacent.

Supplementary angles sum to 180 degrees and can be adjacent or non-adjacent.

## Part 2: Application and Analysis

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**If angle A is 40 degrees, what is the measure of its complementary angle?**

Hint: Use the definition of complementary angles to find the answer.

- A) 40 degrees
- B) 50 degrees ✓
- C) 90 degrees
- D) 140 degrees

■ The complementary angle is 50 degrees, as it adds up to 90 degrees with angle A.

**You have two angles, one measuring  $x$  degrees and the other measuring  $(90 - x)$  degrees. Which of the following are true?**

Hint: Consider the relationship between the angles based on their measures.

- A) The angles are complementary. ✓
- B) The angles are supplementary.
- C) The sum of the angles is 90 degrees. ✓
- D) The sum of the angles is 180 degrees.

■ The angles are complementary, and their sum is 90 degrees.

**Given two angles, 70 degrees and 110 degrees, determine if they are complementary, supplementary, or neither. Explain your reasoning.**

Hint: Use the definitions of complementary and supplementary angles to analyze the situation.

■ The angles are supplementary because their sum is 180 degrees.

**If two angles form a linear pair and one angle is 75 degrees, what is the measure of the other angle?**

Hint: Remember that linear pairs are supplementary.

- A) 15 degrees
- B) 75 degrees
- C) 105 degrees ✓
- D) 180 degrees

The other angle measures 105 degrees, as they sum to 180 degrees.

**Analyze the following pairs of angles and determine which are complementary:**

*Hint: Consider the sum of the angles in each pair.*

- A) 30 degrees and 60 degrees ✓
- B) 45 degrees and 45 degrees ✓
- C) 90 degrees and 90 degrees
- D) 120 degrees and 60 degrees

The pairs that are complementary sum to 90 degrees.

**Explain how you can determine if two angles are supplementary using a geometric diagram.**

*Hint: Think about the properties of angles in a straight line.*

Two angles are supplementary if they form a straight line, summing to 180 degrees.

### Part 3: Evaluation and Creation

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**Two angles are complementary, and one angle is three times the other. What is the measure of the smaller angle?**

*Hint: Set up an equation based on the relationship between the angles.*

- A) 15 degrees
- B) 22.5 degrees ✓
- C) 30 degrees
- D) 45 degrees

The smaller angle measures 22.5 degrees.

**Evaluate the following statements and select those that are true for supplementary angles:**

*Hint: Consider the properties of supplementary angles.*

- A) They always form a straight line. ✓**
- B) They can be adjacent or non-adjacent. ✓**
- C) Their sum is always 90 degrees.
- D) They are always used in triangles.

**|** Supplementary angles always sum to 180 degrees and can be adjacent or non-adjacent.

**Create a real-world problem involving supplementary angles and provide a solution.**

*Hint: Think about situations where angles are used in design or construction.*

**|** A real-world problem could involve two angles in a building that sum to 180 degrees.

**Design a geometric figure that includes at least one pair of complementary angles and one pair of supplementary angles. Describe the figure and the angles involved.**

*Hint: Consider common geometric shapes and their properties.*

1. Complementary Angles

**|** In a right triangle, the two non-right angles.

2. Supplementary Angles

**|** Angles on a straight line.

A figure could be a right triangle with complementary angles and a straight line with supplementary angles.