

Name: _____

Complementary and Supplementary Angles

A muralist designs large paintings or pictures to large surfaces, such as walls and ceilings. Today, you will imagine you are a muralist who is creating a large, outdoor mural. The mural will be on the side of a school and will combine art, music, and math. The goal of the mural is to show students that math is interconnected with the arts. Your mural will connect music and art with the mathematical concepts of complementary and supplementary angles.



Step 1: Learn about complementary and supplementary angles

Complementary Angles:

Two angles that add up to 90 degrees.

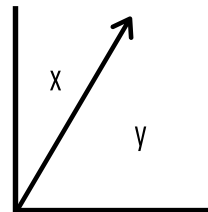
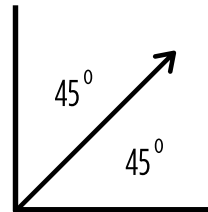
Here is an example:

Angles x and y are complementary.

If you know angle x is 30 degrees, what is the measure of angle y ?

$$90^\circ - 30^\circ = 60^\circ$$

$$y = 60^\circ$$



Supplementary Angles

Two angles that add up to 180 degrees.

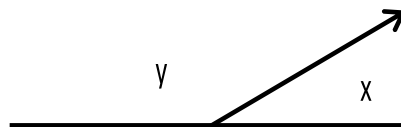
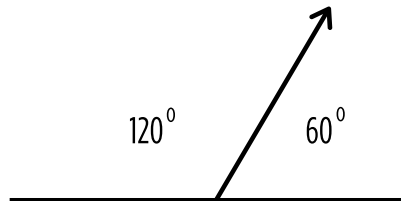
Here is an example:

Angles x and y are supplementary.

If you know angle x is 30 degrees, what is the measure of angle y ?

$$180^\circ - 30^\circ = 150^\circ$$

$$y = 150^\circ$$



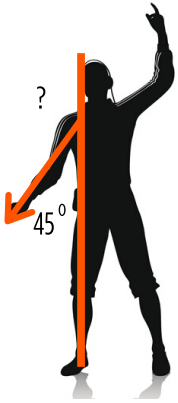
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Complementary and Supplementary Angles

Step 2: Find complementary and supplementary angles

Muralists use angle measurements when designing new art work. There are 8 boxes with silhouettes of dancers, DJs, and musicians. Use the information provided to find the requested angle. Show your work.

1. Find the supplementary angle. Show your work.



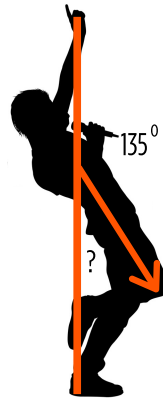
2. Find the complementary angle. Show your work.



3. Find the complementary angle. Show your work.



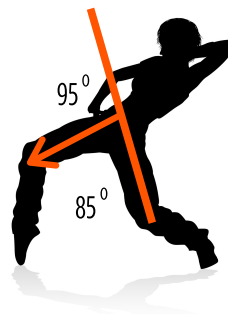
4. Find the supplementary angle. Show your work.



5. Find the supplementary angle. Show your work.



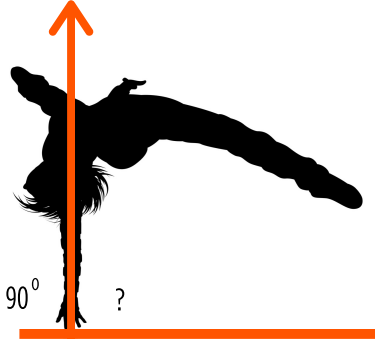
6. Are the angles supplementary? Show your work.



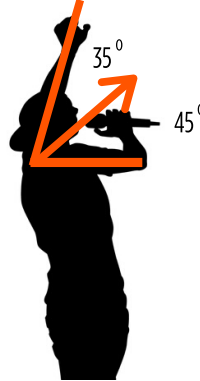
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Complementary and Supplementary Angles

7. Find the supplementary angle. Show your work.



8. Are the angles complementary? Show your work.



Step 3: Create backgrounds

Create a background for each box. Your backgrounds can use words and images. For example, your background can have the lyrics of your favorite song or drawings that look abstract.

Step 4: Create social media posts

Create two Instagram™ posts that let your followers know about your new art installation. Your Instagram™ posts must meet the following requirements:

- Must give the viewer more information on your mural (e.g., the location of your mural, the name of your mural, a landmark your mural is near).
- A reason your followers will want to come see your mural (e.g., to support local art, to bring attention to math in everyday life, to enjoy scenery while on a walk).
- Explain how complementary and supplementary angles can be incorporated into art and music.