Definitions:

- An **angle** is formed by rotating a ray around its endpoint.

  If the rotation of the terminal side is counterclockwise, the angle is **positive**.

  If the rotation of the terminal side is clockwise, the angle is **negative**.

- An **acute angle** is an angle measuring more than $0^\circ$ but less than $90^\circ$.

- A **right angle** is an angle measuring $90^\circ$.

- An **obtuse angle** is an angle measuring more than $90^\circ$ but less than $180^\circ$.

- A **straight angle** is an angle measuring exactly $180^\circ$.

- A **reflex angle** is an angle measuring more than $180^\circ$.

- Two angles are **complementary angles** if the sum of their measures is $90^\circ$. 
• Two angles are **supplementary angles** if the sum of their measures is $180^\circ$.

• An angle is in **standard position** if its vertex is at the origin and its initial side is along the positive $x$–axis.

• Angles in standard position having their terminal sides along the $x$–axis or $y$–axis are called **quadrantal angles**.

• Angles that have the same initial side and the same terminal side are called **coterminal angles**.
• Portions of a degree are measured in minutes and seconds. One minute, written 1′, is 1/60 of a degree:

\[ 1' = \left( \frac{1}{60} \right) ^{\circ} \quad \text{or} \quad 60' = 1^{\circ} \]

One second, written 1″, is 1/60 of a minute:

\[ 1'' = \left( \frac{1}{60} \right)' = \left( \frac{1}{3600} \right)^{\circ} \quad \text{or} \quad 60'' = 1' \]

\textbf{Example 1:} Convert each angle to decimal degrees:

(a) \( 38^{\circ}42' \)

(b) \( 34^{\circ}51'35'' \)

\textbf{Example 2:} Convert 59.0854° to degrees, minutes, and seconds.