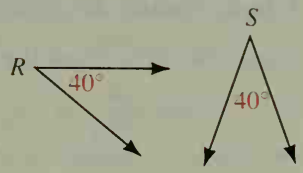
Congruent angles are angles that have equal measures. Since $\angle R$ and $\angle S$ both have measure 40, you can write

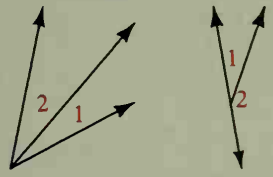
$$m\angle R = m\angle S \text{ or } \angle R \cong \angle S.$$

The definition of congruent angles tells us that these two statements are equivalent. We will use them interchangeably.

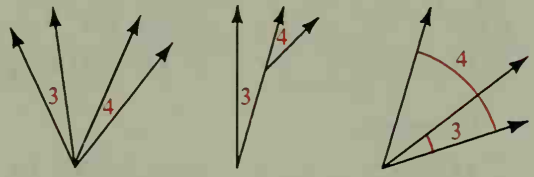


Adjacent angles (adj. ∠s) are two angles in a plane that have a common vertex and a common side but no common interior points.

$\angle 1$ and $\angle 2$ are adjacent angles.



$\angle 3$ and $\angle 4$ are not adjacent angles.

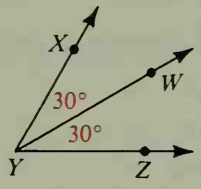


The **bisector of an angle** is the ray that divides the angle into two congruent adjacent angles. In the diagram,

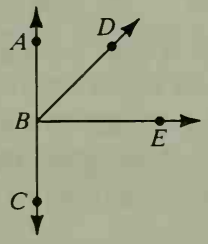
$$m\angle XYW = m\angle WYZ,$$

$$\angle XYW \cong \angle WYZ,$$

and $\overrightarrow{YW}$ bisects $\angle XYZ$.



There are certain things that you can conclude from a diagram and others that you can't. The following are things you can conclude from the diagram shown below.



All points shown are coplanar.
$\overleftrightarrow{AB}$, $\overrightarrow{BD}$, and $\overrightarrow{BE}$ intersect at B.
A, B, and C are collinear.
B is between A and C.
$\angle ABC$ is a straight angle.
D is in the interior of $\angle ABE$.
$\angle ABD$ and $\angle DBE$ are adjacent angles.

The diagram above does *not* tell you that $\overline{AB} \cong \overline{BC}$, that $\angle ABD \cong \angle DBE$, or that $\angle CBE$ is a right angle. These three new pieces of information can be indicated in a diagram by using marks as shown at the right. Note that a small square is used to indicate a right angle (rt. ∠).