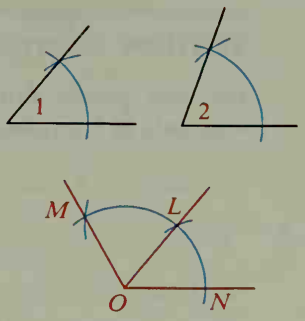
Example Given $\angle 1$ and $\angle 2$, construct an angle whose measure is equal to $m\angle 1 + m\angle 2$.

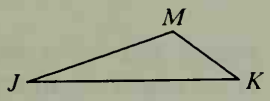
Solution First use Construction 2 to construct $\angle LON$ congruent to $\angle 1$. Then use the same method to construct $\angle MOL$ congruent to $\angle 2$ (as shown) so that $m\angle MON = m\angle 1 + m\angle 2$.



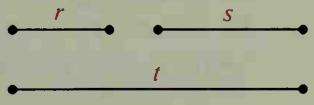
In construction exercises, you won't ordinarily have to write out the procedure and the justification. However, you should be able to supply them when asked to do so.

Classroom Exercises

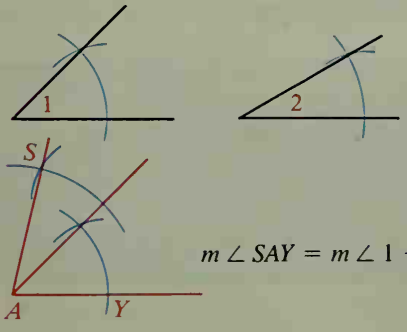
1. Given: $\triangle JKM$
   Explain how to construct a triangle that is congruent to $\triangle JKM$.



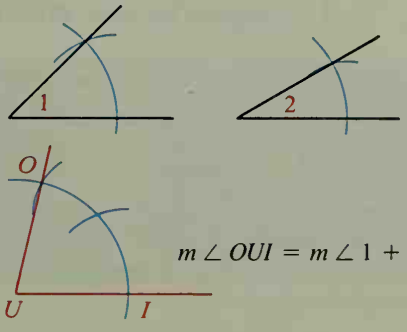
2. Draw any $\overline{AB}$.
   a. Construct $\overline{XY}$ so that $XY = AB$.
   b. Using X and Y as centers, and a radius equal to AB, draw arcs that intersect. Label the point of intersection Z.
   c. Draw $\overline{XZ}$ and $\overline{YZ}$.
   d. What kind of triangle is $\triangle XYZ$?
3. Explain how you could construct a 30° angle.
4. Exercise 3 suggests that you could construct other angles with certain measures. Name some.
5. Suppose you are given the three lengths shown and are asked to construct a triangle whose sides have lengths r, s, and t. Can you do so? State the theorem from Chapter 6 that applies.



6. $\angle 1$ and $\angle 2$ are given. You see two attempts at constructing an angle whose measure is equal to $m\angle 1 + m\angle 2$. Are both constructions satisfactory?



$m\angle SAY = m\angle 1 + m\angle 2$



$m\angle OUI = m\angle 1 + m\angle 2$