

Lesson 5-2

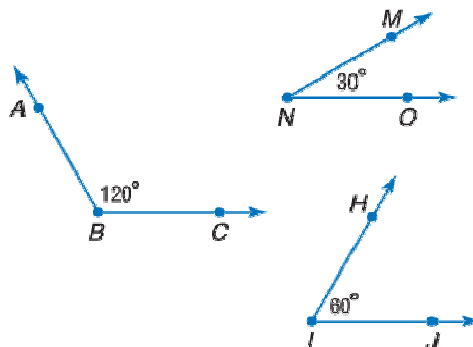
Example 1

Use the three angles shown to name:

- two complementary angles
- two supplementary angles

Solution

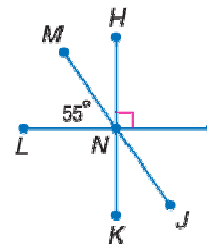
- $m\angle MNO + m\angle HIJ = 30^\circ + 60^\circ = 90^\circ$,
so they are complementary.
- $m\angle ABC + m\angle HIJ = 120^\circ + 60^\circ = 180^\circ$,
so they are supplementary.



Example 2

In the figure, $\overline{HK} \perp \overline{LI}$ and $\angle MNL$ and $\angle JNI$ are vertical angles.

- Name all right angles.
- Find $m\angle MNH$.
- Find $m\angle INJ$.



Solution

- $\overline{HK} \perp \overline{LI}$. So $\angle LNH$, $\angle HNI$, $\angle INK$, and $\angle LNK$ are all right angles.
- $\angle LNM$ and $\angle MNH$ are complementary angles.
So $m\angle MNH = 90^\circ - m\angle LNM = 90^\circ - 55^\circ = 35^\circ$.
- $\angle LNM$ and $\angle INJ$ are vertical angles, so $m\angle INJ = 55$.

Example 3

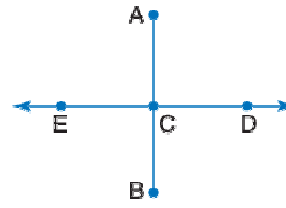
GEOMETRY SOFTWARE Use geometry software to create two perpendicular lines. Verify that the lines form right angles.

Solution

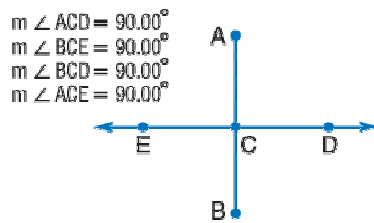
Step 1 Construct a line segment on the screen.



Step 2 Using the construct option, create a segment that is perpendicular to the segment created in Step 1.



Step 3 Display the measures of the four angles created by the segments.



Step 4 Keep all of the measures displayed and move the original segment. Observe how the angle measures stay the same.

