

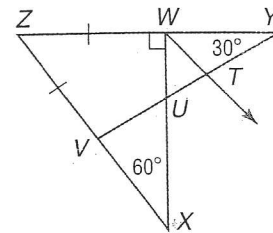
Practice and Apply

Homework Help

For Exercises	See Examples
11–16	1
17–22	2
27–30	3
31–35	4

Extra Practice
See page 755.

For Exercises 11–16, use the figure at the right and a protractor.



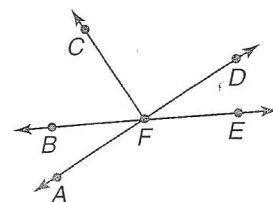
- Name two acute vertical angles.
- Name two obtuse vertical angles.
- Name a pair of complementary adjacent angles.
- Name a pair of complementary nonadjacent angles.
- Name a linear pair whose vertex is T.
- Name an angle supplementary to $\angle UVZ$.
- Rays PQ and QR are perpendicular. Point S lies in the interior of $\angle PQR$. If $m\angle PQS = 4 + 7a$ and $m\angle SQR = 9 + 4a$, find $m\angle PQS$ and $m\angle SQR$.
- The measures of two complementary angles are $16z - 9$ and $4z + 3$. Find the measures of the angles.
- Find $m\angle T$ if $m\angle T$ is 20 more than four times its supplement.
- The measure of an angle's supplement is 44 less than the measure of the angle. Find the measure of the angle and its supplement.
- Two angles are supplementary. One angle measures 12° more than the other. Find the measures of the angles.
- The measure of $\angle 1$ is five less than four times the measure of $\angle 2$. If $\angle 1$ and $\angle 2$ form a linear pair, what are their measures?

Determine whether each statement is *sometimes*, *always*, or *never* true.

- If two angles are supplementary and one is acute, the other is obtuse.
- If two angles are complementary, they are both acute angles.
- If $\angle A$ is supplementary to $\angle B$ and $\angle B$ is supplementary to $\angle C$, then $\angle A$ is supplementary to $\angle C$.
- If $\overline{PN} \perp \overline{PQ}$, then $\angle NPQ$ is acute.

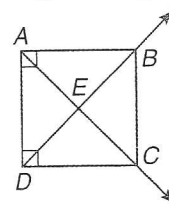
ALGEBRA For Exercises 27–29, use the figure at the right.

- If $m\angle CFD = 12a + 45$, find a so that $\overline{FC} \perp \overline{FD}$.
- If $m\angle AFB = 8x - 6$ and $m\angle BFC = 14x + 8$, find the value of x so that $\angle AFC$ is a right angle.
- If $\angle BFA = 3r + 12$ and $m\angle DFE = -8r + 210$, find $m\angle AFE$.
- $\angle L$ and $\angle M$ are complementary angles. $\angle N$ and $\angle P$ are complementary angles. If $m\angle L = y - 2$, $m\angle M = 2x + 3$, $m\angle N = 2x - y$, and $m\angle P = x - 1$, find the values of x , y , $m\angle L$, $m\angle M$, $m\angle N$, and $m\angle P$.



Determine whether each statement can be assumed from the figure. Explain.

- $\angle DAB$ is a right angle.
- $\angle AEB \cong \angle DEC$
- $\angle ADB$ and $\angle BDC$ are complementary.
- $\angle DAE \cong \angle ADE$
- $\overline{AB} \perp \overline{BC}$



- LANGUAGE** Look up the words *complementary* and *complimentary*. Discuss the differences and which has a mathematical meaning.
- CRITICAL THINKING** A counterexample is used to show that a statement is not necessarily true. Find a counterexample for the statement *Supplementary angles form linear pairs*.