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## 1-5 Practice

## Angle Relationships

Name an angle or angle pair that satisfies each condition.

1. Name two obtuse vertical angles.

Sample answer: $\angle G F H, \angle C F E$
2. Name a linear pair with vertex $B . \angle G B C, \angle C B A$
3. Name an angle not adjacent to, but complementary
 to $\angle F G C$. $\angle F E D$
4. Name an angle adjacent and supplementary to $\angle D C B . \angle B C G$ or $\angle D C H$
5. ALGEBRA Two angles are complementary. The measure of one angle is 21 more than twice the measure of the other angle. Find the measures of the angles. 23, 67
6. ALGEBRA If a supplement of an angle has a measure 78 less than the measure of the angle, what are the measures of the angles? 129, 51

ALGEBRA For Exercises 7-8, use the figure at the right.

> 7. If $m \angle F G E=5 x+10$, find the value of $x$ so that $\overleftrightarrow{F C} \perp \overleftrightarrow{A E} .16$
8. If $m \angle B G C=16 x-4$ and $m \angle C G D=2 x+13$, find the value of $x$ so that $\angle B G D$ is a right angle. 4.5


Determine whether each statement can be assumed from the figure. Explain.
9. $\angle N Q O$ and $\angle O Q P$ are complementary. No; $m \angle N Q P$ is not known to be 90.
10. $\angle S R Q$ and $\angle Q R P$ is a linear pair. Yes; they are adjacent angles whose noncommon sides are opposite rays.
11. $\angle M Q N$ and $\angle M Q R$ are vertical angles. No; the angles are adjacent.
12. STREET MAPS Darren sketched a map of the cross streets nearest to his home for his friend Miguel. Describe two different angle relationships between the streets.
Sample answer: Beacon $\perp$ Main; Olive divides two of the angles formed by Beacon and Main into pairs of complementary angles.


