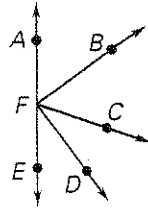
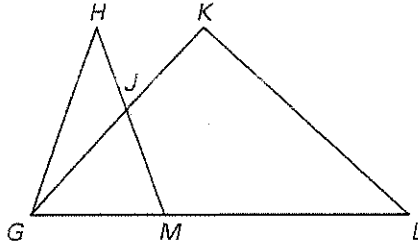


Use a protractor to find the measure of the given angle. Then classify the angle as *acute*, *obtuse*, *right*, or *straight*.



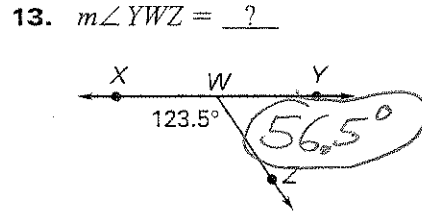
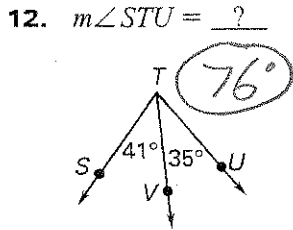
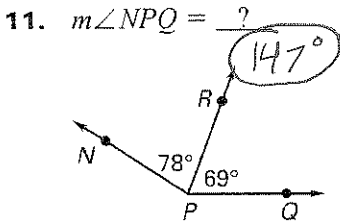
- $\angle AFB = 55^\circ$ acute
- $\angle BFD = 90^\circ$ right
- $\angle AFC = 118^\circ$ obtuse
- $\angle AFE = 180^\circ$ straight

Give as many other names as possible for the angle in the diagram. Tell whether the angle appears to be *acute*, *obtuse*, *right*, or *straight*.

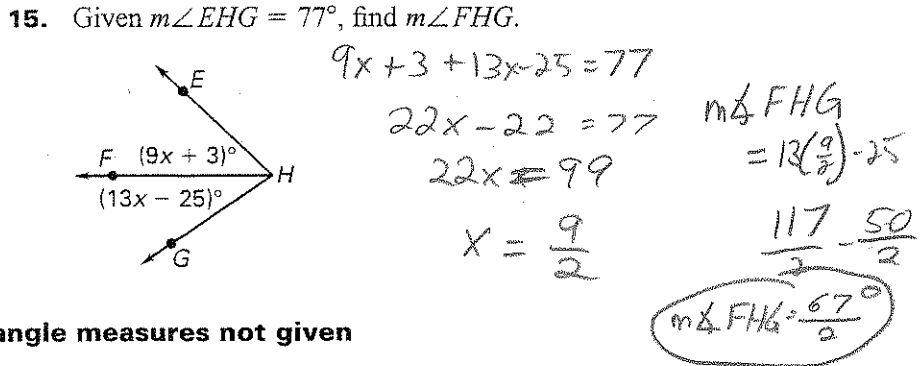
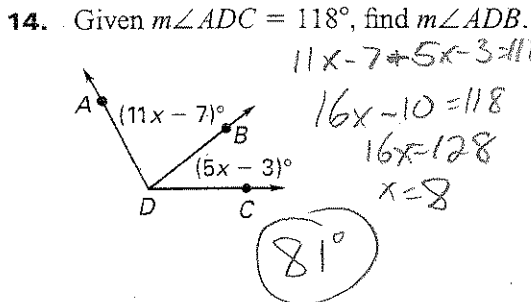


- $\angle HGM = \angle MGH$ acute
- $\angle KLG = \angle GLK = \angle L$ acute
- $\angle KJM = \angle MJK$ obtuse
- $\angle JKL = \angle LKJ = \angle K$ right
- $\angle HML = \angle LMH$ obtuse
- $\angle GJK = \angle KJG$ straight

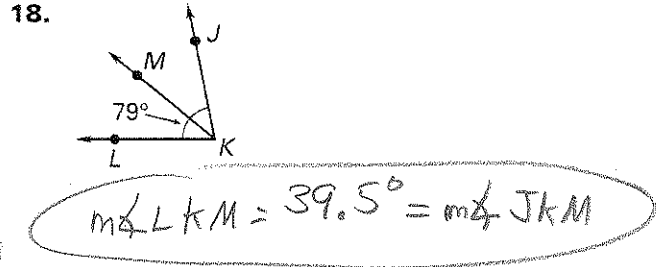
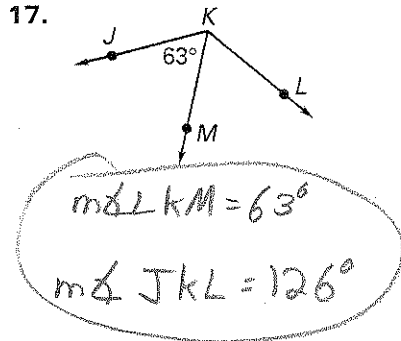
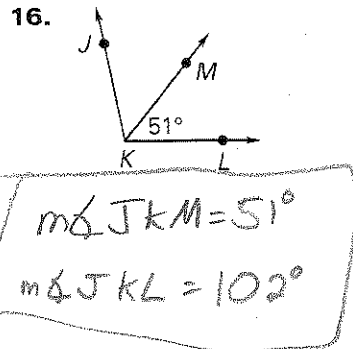
Find the indicated angle measure.



Use the given information to find the indicated angle measure.



Given that \overline{KM} bisects $\angle JKL$, find the two angle measures not given in the diagram.



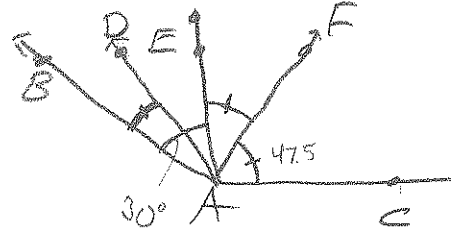
In Exercises 1–4, tell whether the statement is *always*, *sometimes*, or *never* true. Explain your reasoning.

1. A pair of opposite rays form a straight angle. *Always*
2. The measures of two acute angles add up to 90° . *Sometimes*
3. If C is in the interior of $\angle ADB$, then $\angle ADC \cong \angle CDB$. *Always*
4. When a ray bisects a straight angle, two congruent acute angles are formed. *Never*



In Exercises 5–11, use the following information.

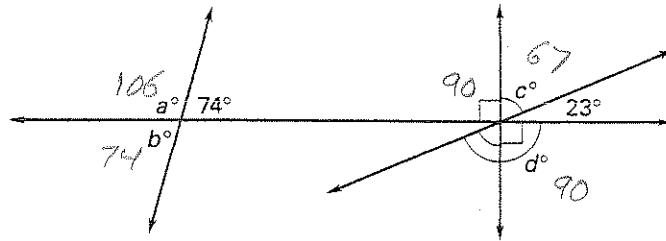
- D is in the interior of $\angle BAE$. $m\angle BAC = 125^\circ$
 E is in the interior of $\angle DAF$. $m\angle EAC = 95^\circ$
 F is in the interior of $\angle EAC$. $m\angle BAD = m\angle EAF = m\angle FAC$



5. Draw a sketch that uses all of the given information.
6. Find $m\angle FAC$. $= 47.5^\circ$
7. Find $m\angle BAD$. $= 47.5^\circ$
8. Find $m\angle FAB$. 172.5

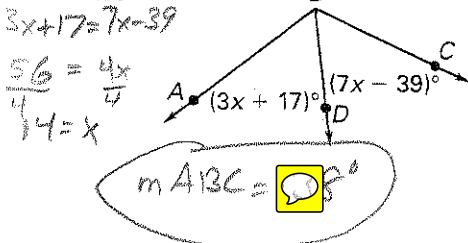
Find the indicated angle measure.

19. $a^\circ = 106^\circ$
20. $b^\circ = 74^\circ$
21. $c^\circ = 67^\circ$
22. $d^\circ = 157^\circ$

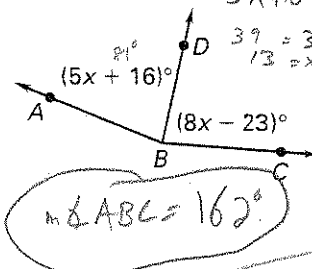


In each diagram, \overline{BD} bisects $\angle ABC$. Find $m\angle ABC$.

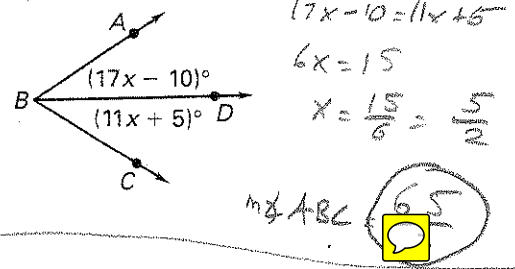
23.



24.

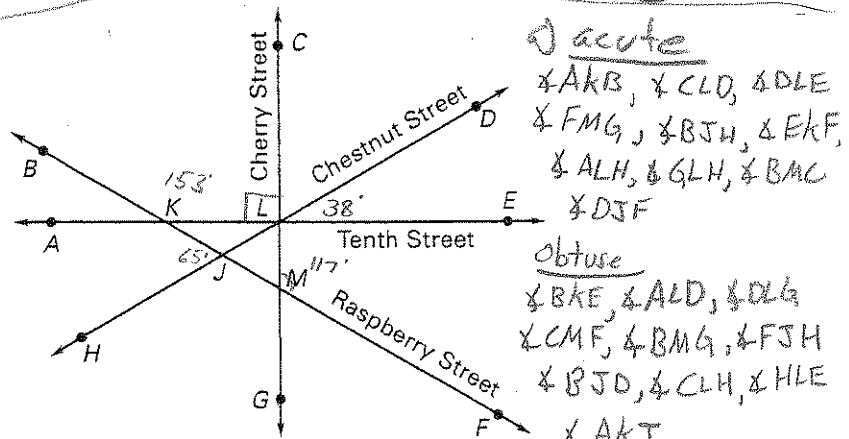


25.



28. Streets The diagram shows four streets and their intersections. All streets are straight and \overline{CG} bisects $\angle ALE$.

- Which angles are acute? obtuse? right?
- Identify the congruent angles.
- If $m\angle DLE = 38^\circ$, $m\angle BKE = 153^\circ$, $m\angle BJH = 65^\circ$, and $m\angle CMF = 117^\circ$, find $m\angle CLD$, $m\angle EKF$, $m\angle FJH$, $m\angle FMG$, $m\angle DJF$, and $m\angle DLG$.



Acute
 $\angle ARB, \angle CLD, \angle DLE$
 $\angle FMG, \angle BJH, \angle EKF$
 $\angle ALH, \angle GLH, \angle BMC$
 $\angle DJF$

Obtuse
 $\angle BKE, \angle ALD, \angle DLG$
 $\angle CMF, \angle BMG, \angle FJH$
 $\angle BJD, \angle CLH, \angle HLE$
 $\angle AKJ$

Right
 $\angle ALC, \angle CLE$
 $\angle ELG, \angle ALG$

$m\angle CLD = 52^\circ$ $m\angle EKF = 27^\circ$
 $m\angle FJH = 5^\circ$ $m\angle FMG = 63^\circ$
 $\angle DJF = 65^\circ$ $m\angle DLG = 128^\circ$