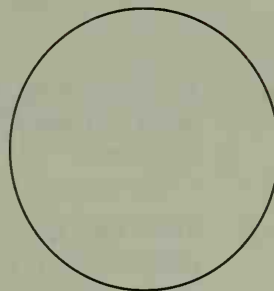


12. Which of the following do you *not* construct when you do Construction 4?
Choose one letter A–F.
- A. midpoint B. perpendicular lines C. median
D. right angles E. supplementary angles F. congruent segments

For each of Exercises 13 and 14, trace the circle shown onto a piece of paper.

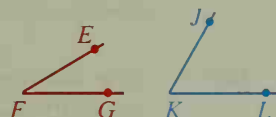
13. a. Use paper folding to find a diameter of the circle.
b. Describe the method you used in part (a).
14. a. Use paper folding to find the center of the circle.
b. Describe the procedure you used in part (a).
c. Explain how you know that the point you found is the center of the circle.
15. Use a compass to draw a $\odot O$. Choose a point on the circle and label it A.
a. Use paper folding to construct the tangent to $\odot O$ at A. Label the tangent t .
(Hint: See Construction 8 on page 392.)
b. Describe the procedure you used in part (a).
c. Write an explanation to justify that t is the tangent to $\odot O$ at A.



Applications of Basic Constructions

Constructions 1–7 can be used to produce polygons and other geometric figures. In the examples and exercises below, you will use paper folding and tracing to construct geometric figures and explore geometric properties.

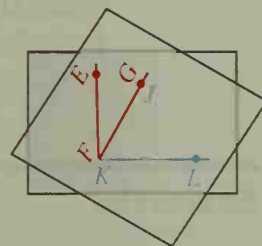
Example 1 Given $\angle EFG$ and $\angle JKL$, construct an angle whose measure equals $m\angle EFG + m\angle JKL$.



Solution

Step 1 Trace each given angle onto a different piece of paper.

Position the two pieces of paper so that \overrightarrow{FG} is on top of \overrightarrow{KJ} .



Step 2 Use Construction 2 (on page 712) to construct $\angle GFZ$ congruent to $\angle JKL$.

$$\begin{aligned} m\angle EFZ &= m\angle EFG + m\angle GFZ \\ &= m\angle EFG + m\angle JKL \end{aligned}$$

