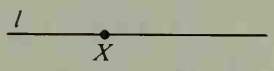
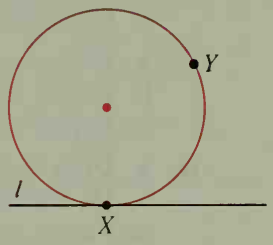
Exercises 11–13 will analyze the following problem.

Given: Line l; points X and Y

Construct: A circle through Y and tangent to l at X



If the problem had been solved, we would have a diagram something like the one shown.



11. Where does the center of the circle lie with respect to line l and point X?

12. Where does the center of the circle lie with respect to $\overline{XY}$?

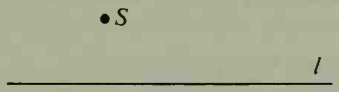
13. Explain how to carry out the construction of the circle.

Written Exercises

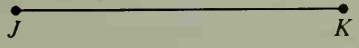
Draw a figure roughly like the one shown, but larger. Do the indicated construction clearly enough so that your method can be understood easily.

A **1.** The perpendicular to l at P

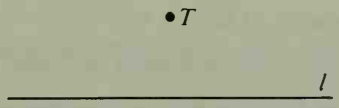
2. The perpendicular to l from S



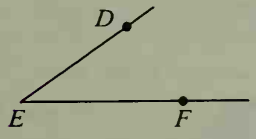
3. The perpendicular bisector of $\overline{JK}$



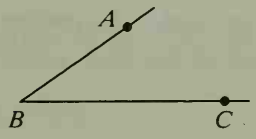
4. The parallel to l through T



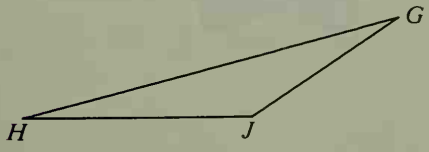
5. The parallel to $\overleftrightarrow{ED}$ through F



6. The perpendicular to $\overleftrightarrow{BA}$ at A



7. The perpendicular to $\overleftrightarrow{HJ}$ from G



8. A complement of $\angle KMN$