1. Given a point \( P \) and a line \( k \), explain how a compass and straightedge can be used to construct a reflection of the point in the line.

In Exercises 2 and 3, use a compass and straightedge to construct the reflection of the figure in line \( k \).

2. 

3. 

In Exercises 4 and 5, refer to the diagram. Assume that \( Y \) is the reflection of \( X \) in line \( m \), and \( Z \) is the reflection of \( Y \) in \( n \).

4. Write a paragraph proof showing that distance \( OX \) is equal to distance \( OZ \).

5. How is \( \angle XOZ \) related to \( \angle SOT \)? Write a paragraph proof to defend your answer. (Assume \( \angle SOT \) is an acute angle with \( Y \) in its interior, as shown.)

In Exercises 6–15, find the number of lines of symmetry for each type of polygon.

6. equilateral triangle
7. square
8. regular pentagon
9. regular hexagon
10. rhombus (not a square)
11. rectangle (not a square)
12. kite
13. parallelogram (not a rhombus or rectangle)
14. isosceles trapezoid
15. non-isosceles trapezoid