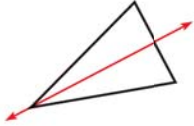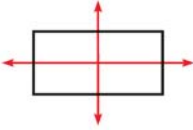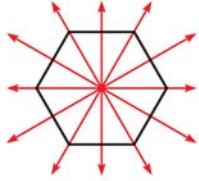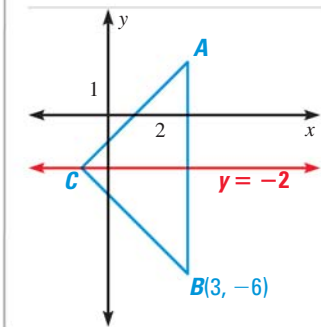# Line Symmetry

A figure has **line symmetry** if a line, called a **line of symmetry**, divides the figure into two parts that are mirror images of each other. Below are four figures with their lines of symmetry shown in red.

|			
Trapezoid No lines of symmetry	**Isosceles Triangle** 1 line of symmetry	**Rectangle** 2 lines of symmetry	**Regular Hexagon** 6 lines of symmetry

EXAMPLE A line of symmetry for the figure is shown in red. Find the coordinates of point *A*.

Point *A* is the mirror image of the point $(3, -6)$ with respect to the line of symmetry $y = -2$. The *x*-coordinate of *A* is 3, the same as the *x*-coordinate of $(3, -6)$. Because -6 is the *y*-coordinate of $(3, -6)$, and $-2 - (-6) = 4$, the point $(3, -6)$ is *down* 4 units from the line of symmetry. Therefore, point *A* must be *up* 4 units from the line of symmetry. So, the *y*-coordinate of *A* is $-2 + 4 = 2$. The coordinates of point *A* are $(3, 2)$.

PRACTICE

Tell how many lines of symmetry the figure has.

1. **2.** **3.** **4.**
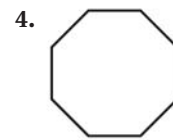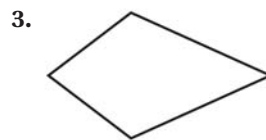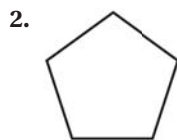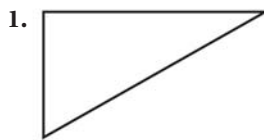
5. A parallelogram **6.** A square **7.** A rhombus **8.** An equilateral triangle

A line of symmetry for the figure is shown in red. Find the coordinates of point *A*.

9. **10.** **11.**