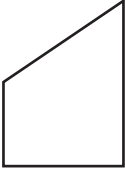
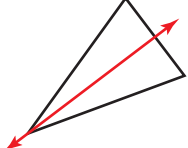
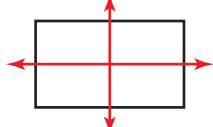
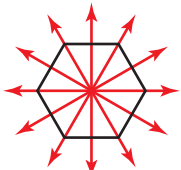
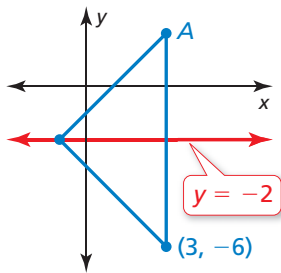


Line Symmetry

A figure has **line symmetry** when 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.

 <p>Trapezoid No lines of symmetry</p>	 <p>Isosceles triangle One line of symmetry</p>	 <p>Rectangle Two lines of symmetry</p>	 <p>Regular hexagon Six lines of symmetry</p>
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Example 1 A line of symmetry for the figure is shown in red. Find the coordinates of point A.



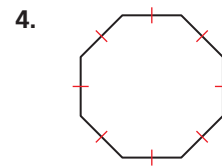
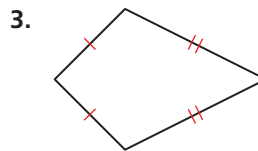
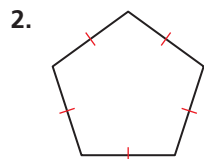
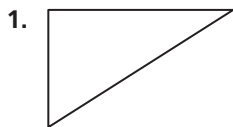
Point A is the mirror image of the point $(3, -6)$ with respect to the line of symmetry $y = -2$. The x -coordinate of A is 3, the same as the x -coordinate of $(3, -6)$. Because -6 is the y -coordinate of $(3, -6)$, and $-2 - (-6) = 4$, the point $(3, -6)$ is *down* 4 units from the line of symmetry.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

Check your answers at BigIdeasMath.com.

Tell how many lines of symmetry are in the figure.



5. square

6. equilateral triangle

7. regular decagon

8. isosceles trapezoid

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

