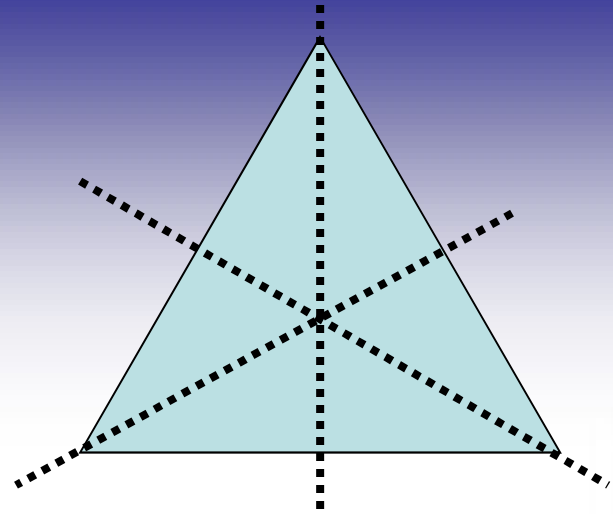
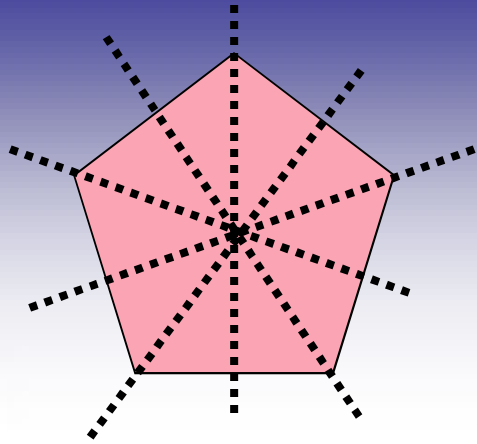
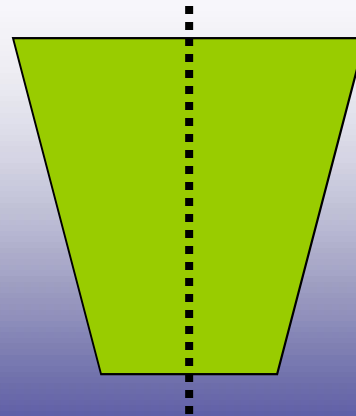
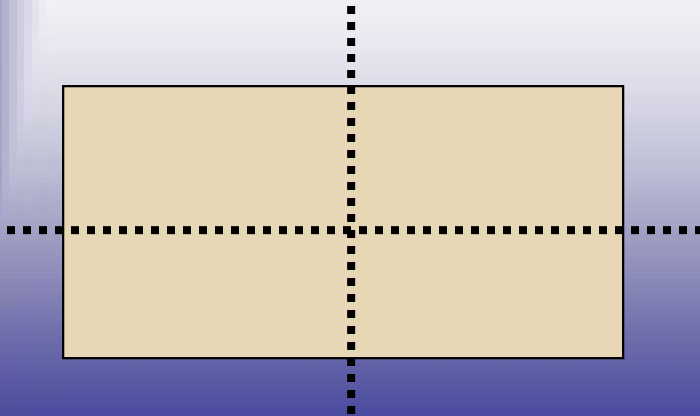


**Symmetry**  
**Rotation**  
**Translation**  
**Reflection**



# Symmetry

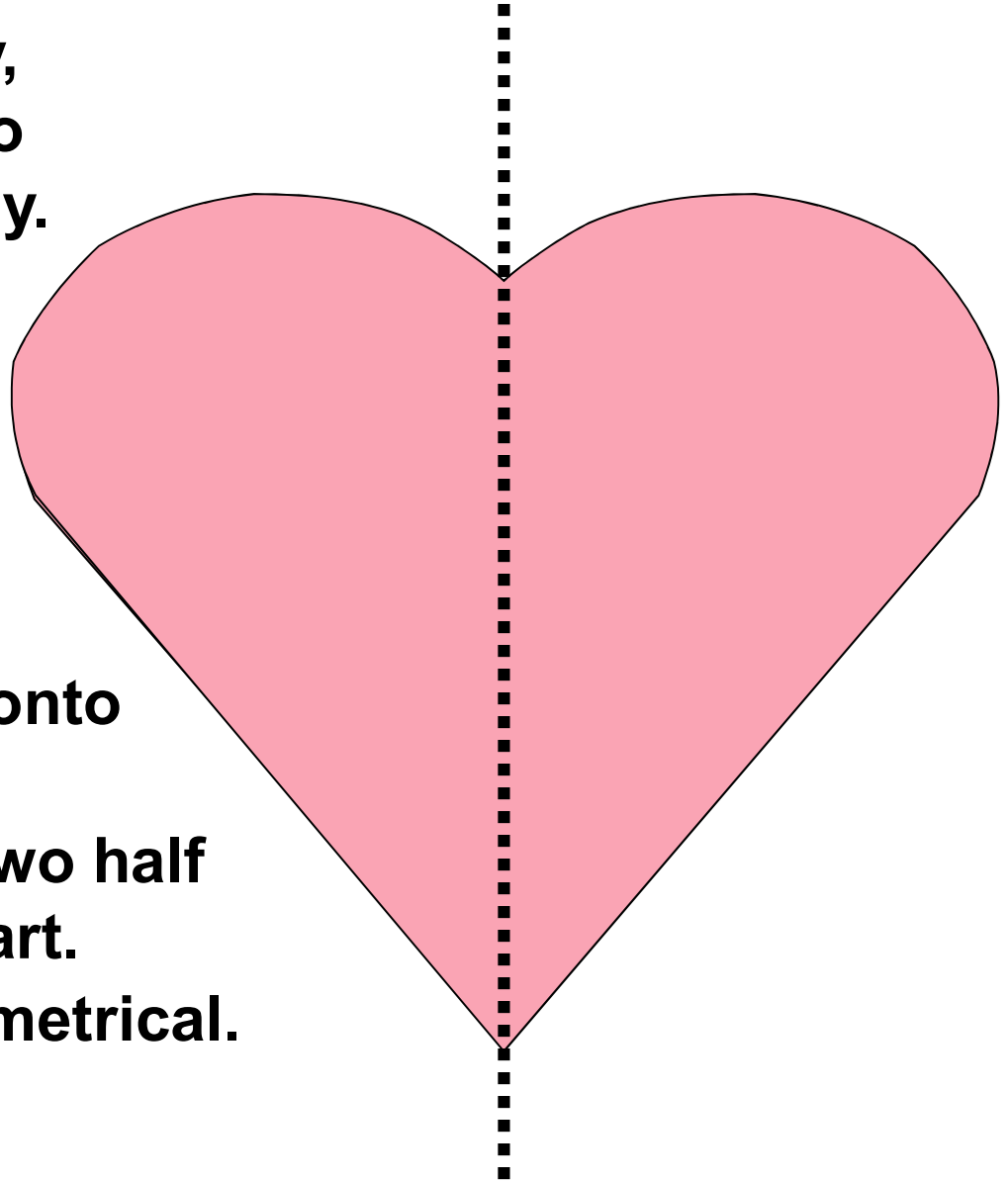


# What is a line of symmetry?

- A line on which a figure can be folded so that both sides match.
  - **Maryland Content Standard 2.E.2** – Identify and describe symmetry in geometric figures or pictures. (Up to four lines of symmetry)

**To be a line of symmetry,  
the shape must have two  
halves that match exactly.**

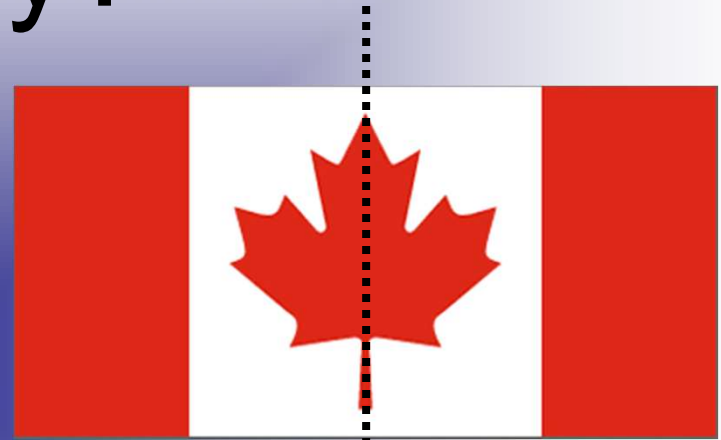
**When you trace a heart onto  
a piece of folded paper,  
and then cut it out, the two half  
hearts make a whole heart.  
The two halves are symmetrical.**



# Which of these flags have a line of symmetry?



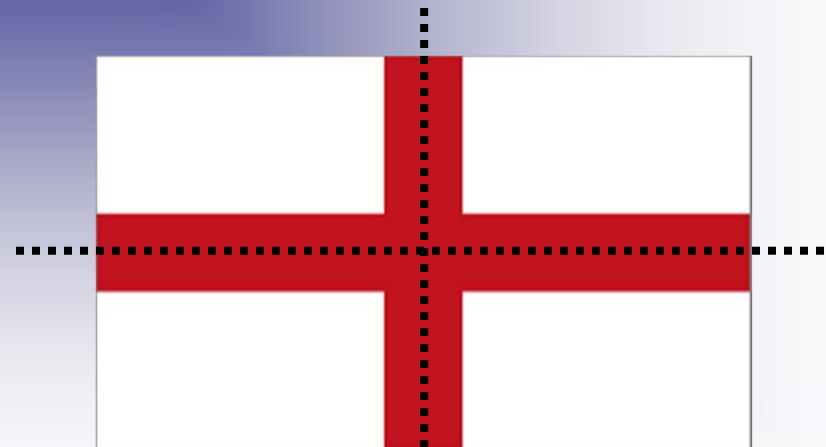
United States of America



Canada



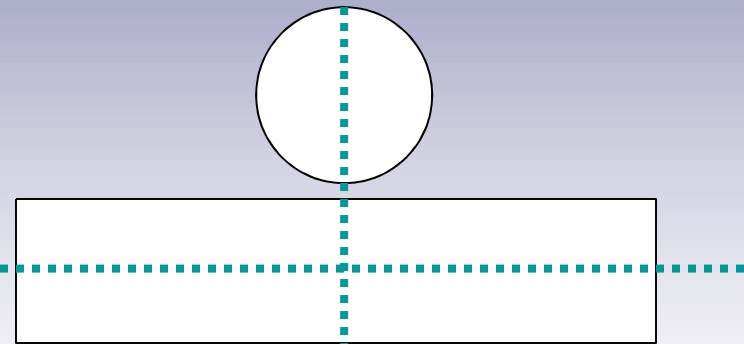
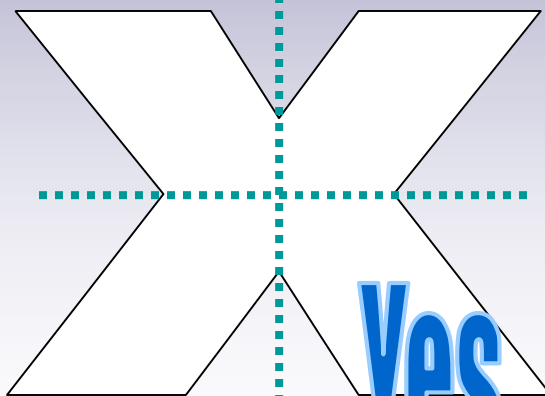
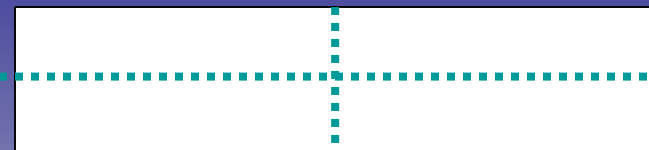
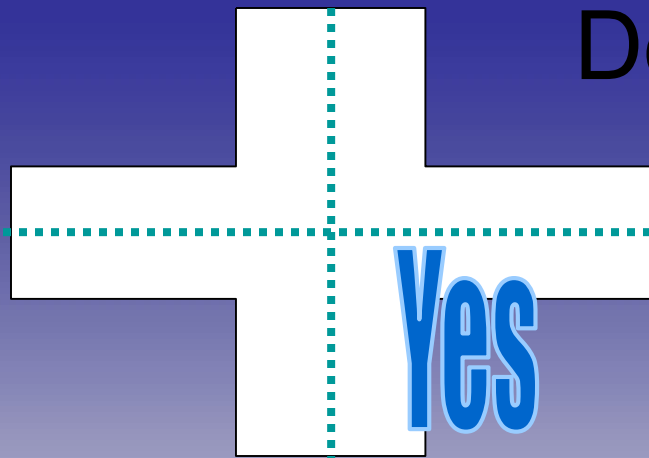
Maryland



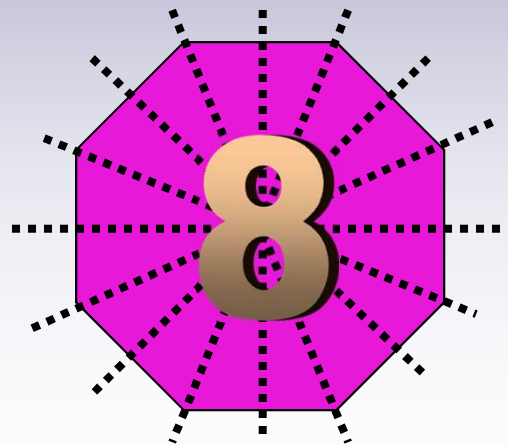
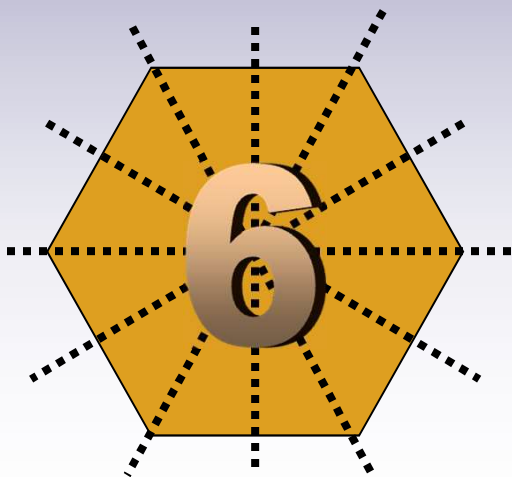
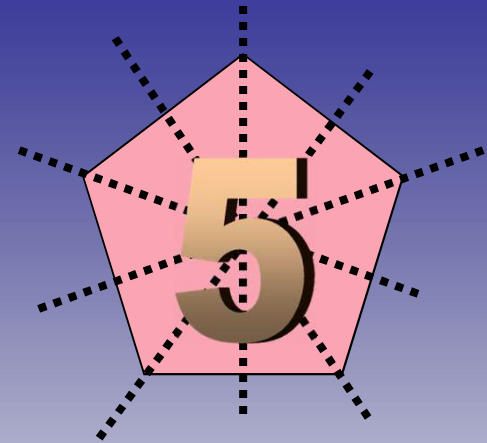
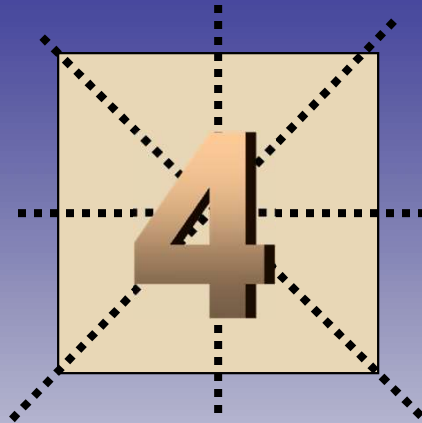
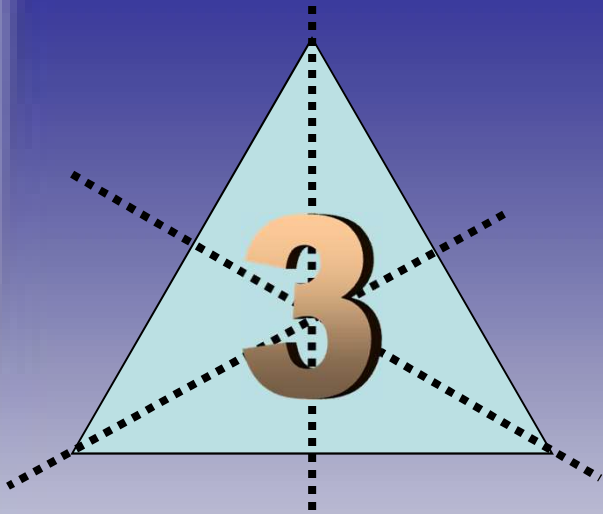
England

# What about these math symbols?

## Do they have symmetry?



# How many lines of symmetry to these regular polygons have?



Do you  
see a  
pattern?

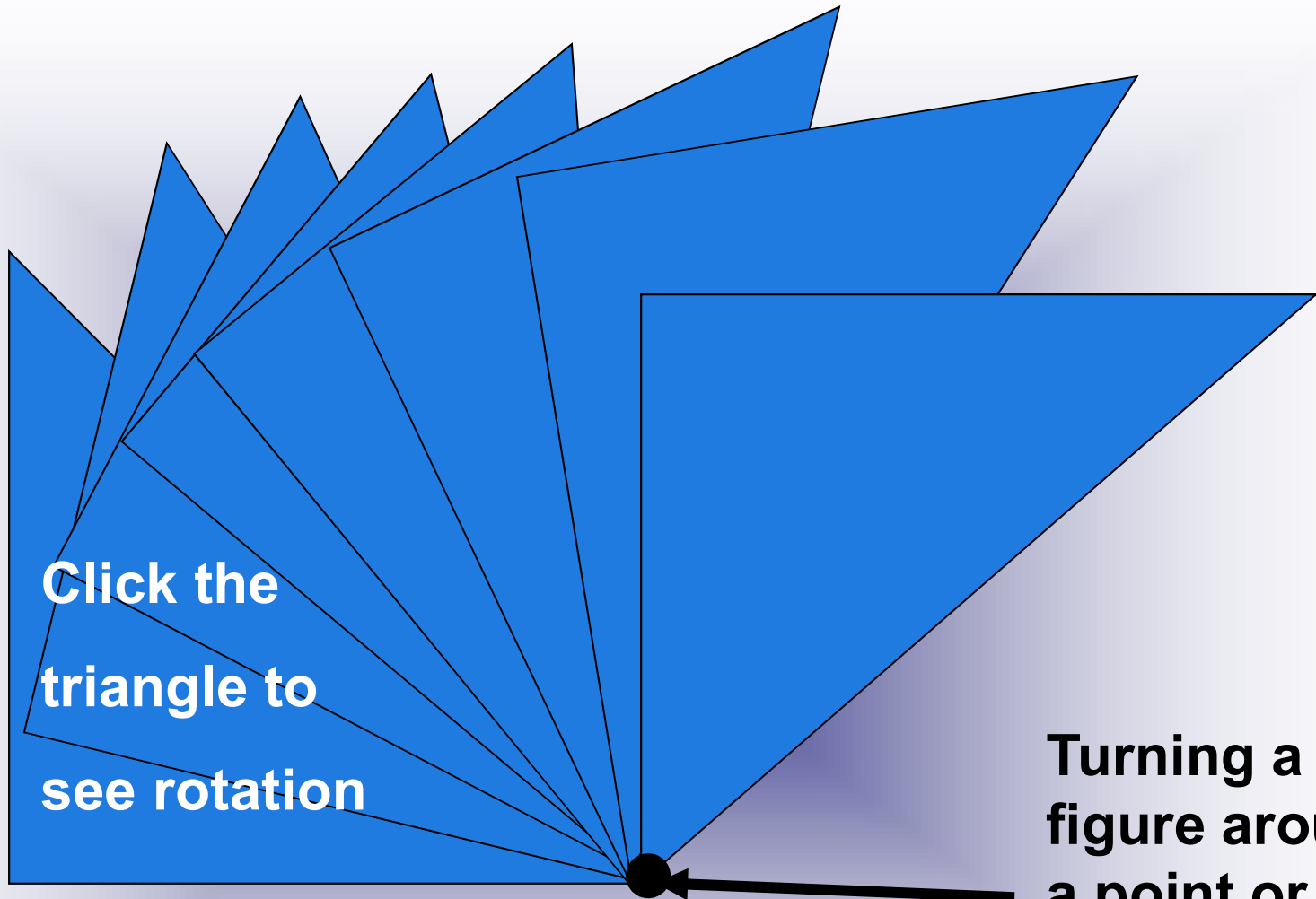
You can look to see if your name  
has symmetrical letters in it too!



Infinite  
number

# Rotation (Turn)

The action of turning a figure around a point or a vertex.



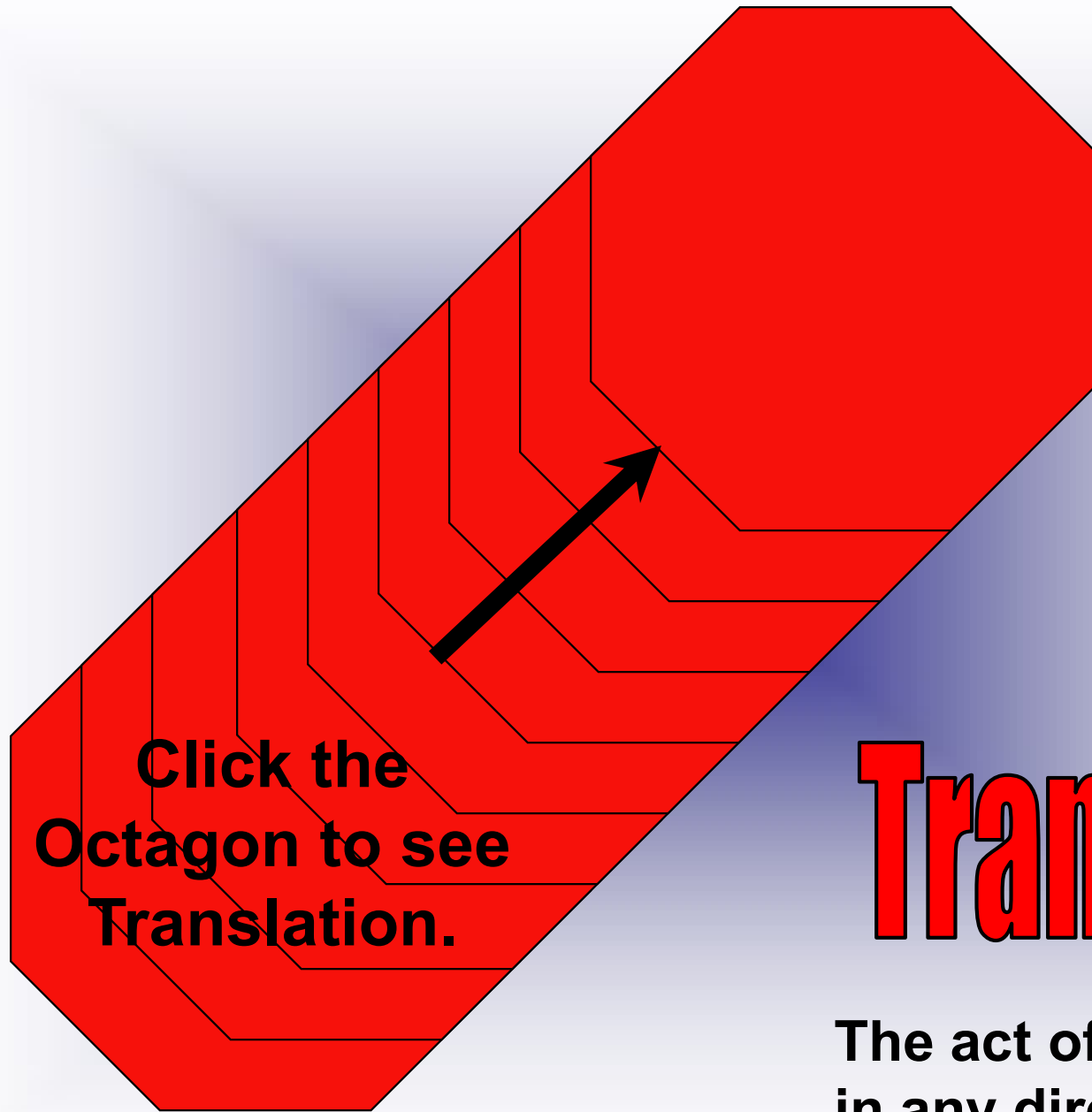
**Click the  
triangle to  
see rotation**

**Turning a  
figure around  
a point or a  
vertex**

# **Rotation**

# Translation (Slide)

**The action of sliding a figure in any direction.**



**Click the  
Octagon to see  
Translation.**

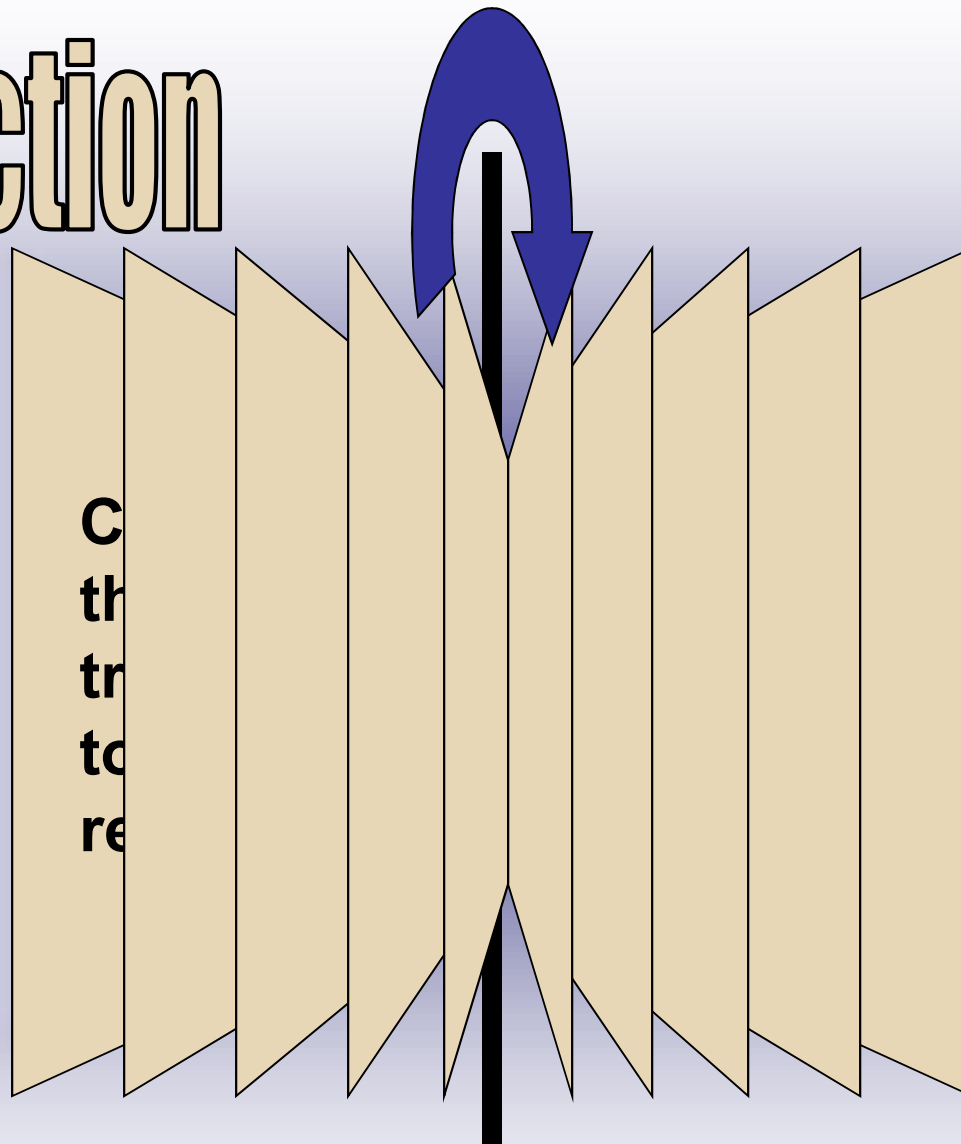
# **Translation**

**The act of sliding a figure  
in any direction.**

# Reflection (flip)

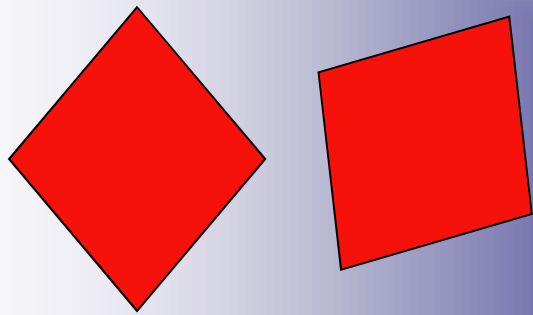
**The result of a figure  
flipped over a line.**

# Reflection



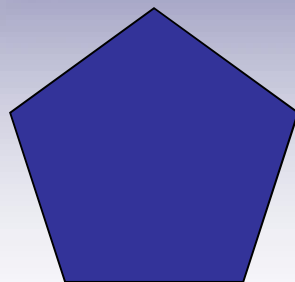
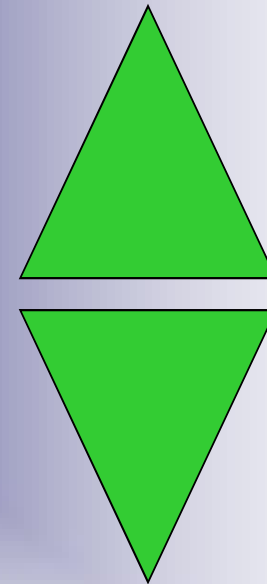
**The result of a figure flipped over a line.**

**Which shapes show reflection,  
translation, or rotation?**



Rotation

Reflection



Translation