

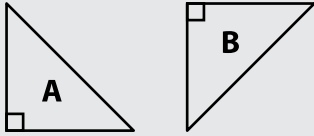
33

Transformations

G.7.I G.7.J

Example

Which best describes the transformation of the triangle?



- A. translation
- B. reflection
- C. rotation clockwise 90°
- D. rotation counterclockwise 90°

Thinking It Through

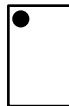
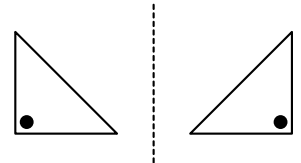
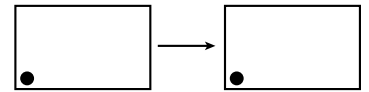
Solve —*Draw It: Model It* You can rotate this book with a 90° turn to see how the triangle was moved.

If the rotated figure looks the same as the original figure after a 90° turn, the figure was rotated.

Figure B looks like Figure A when the book is turned 90° to the right (clockwise). The answer is *rotation clockwise 90° , choice C*.

Review

- A **transformation** is the movement of a figure. A figure's shape and size do not change during a transformation. The transformed figure is **congruent** to the original figure.
- A **translation** or a *slide* moves a figure along a line.
- A **reflection** or a *flip* produces a mirror image of a figure.
- A **rotation** *turns* a figure around a point. The triangle in the *Example* has been rotated 90° or $\frac{1}{4}$ turn clockwise.



$\frac{1}{4}$ turn clockwise
 90°

$\frac{1}{2}$ turn
 180°

$\frac{3}{4}$ turn clockwise
 270°

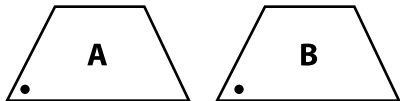
(This is the same as a $\frac{1}{4}$ turn counterclockwise.)

Transformations

33

Directions: Carefully read each question. Fill in the circle next to the correct answer.

1. Which best describes how figure A was transformed into figure B?

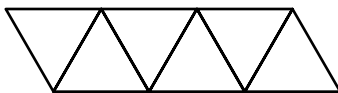


- A. rotation clockwise 90°
 B. rotation 180°
 C. reflection
 D. translation



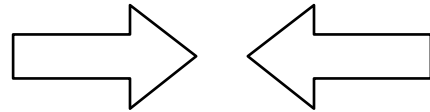
Clockwise is in the direction that a clock's hands move. *Counterclockwise* is the opposite direction.

2. Which transformation was used to create this pattern?



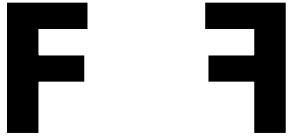


- A. translations
 B. rotations
 C. reflections
 D. Transformations were not used in this pattern.

3. Which is not true about these two arrows?



- A. The arrows are the same shape.
 B. The arrows are the same size.
 C. The arrows are congruent.
 D. The arrows have the same position.

4. Which shows a reflection of the letter F?

- A. 
 B. 
 C. 
 D. 