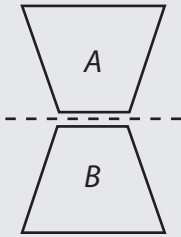


26 Transformations

C.2.1.1

Example

Which **best** describes the transformation of the trapezoid?



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

Thinking It Through

Solve —*Draw It: Model It* You can use this book or another object to demonstrate how the trapezoid was transformed. Move the book to test the result of each transformation.

If trapezoid *A* was translated into trapezoid *B*, trapezoid *B* would be facing the same way as trapezoid *A*.

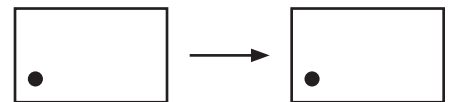
If trapezoid *A* was rotated 90° around a point, the top of trapezoid *B* would be facing either to the right or to the left of trapezoid *A*.

Trapezoid *B* looks like a mirror image of trapezoid *A*. Therefore, trapezoid *A* was reflected into trapezoid *B*, *answer choice B*.

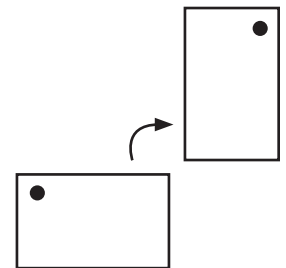
Review

- A **transformation** is the moving of a figure by a translation (slide), rotation (turn), or reflection (flip). The figure's shape and size do not change during a transformation. The transformed figure is congruent to the original one.
- A **translation** or a *slide* moves a figure along a line.
- A **rotation** *turns* a figure around a point. The rectangle at right has been rotated 90° clockwise. A 90° rotation is a $\frac{1}{4}$ turn. A 180° rotation is a $\frac{1}{2}$ turn.
 - *Clockwise* is the direction a clock's hands move.
 - *Counterclockwise* is the opposite of the direction a clock's hands move.
- A **reflection** or a *flip* produces a mirror image of a figure. The Example shows a reflection across a horizontal line. Reflections can also be across a vertical line, in which case the mirror image will be to the right or left of the original.

Translation



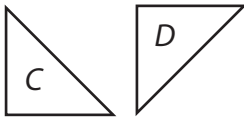
Rotation



Transformations

DIRECTIONS Read and solve each question. Then circle the letter of the best answer.

Use the figures below to answer question 1.



1. Which **best** describes how triangle *C* was transformed into triangle *D*?
- A rotation 90° clockwise
 - B rotation 180°
 - C reflection
 - D translation



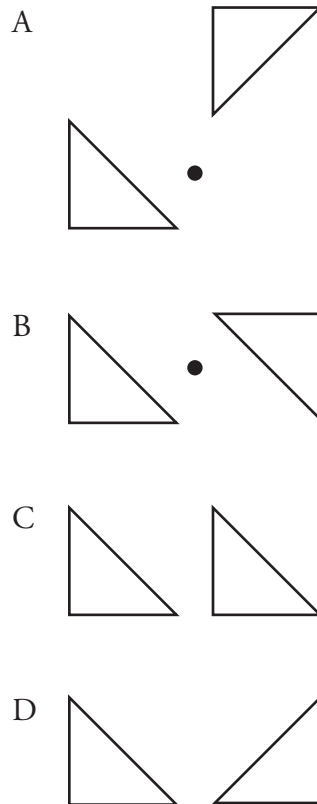
Remember: You can turn, slide, or flip the book to model different translations.

Use the figures below to answer question 2.



2. How was parallelogram *E* transformed into parallelogram *F*?
- A rotation 90° clockwise
 - B rotation 180°
 - C reflection
 - D translation

3. Which is an example of a 180° rotation?



4. Which describes how the letter **d** is transformed into the letter **p**?
- A translation
 - B reflection
 - C rotation 90° clockwise
 - D rotation 180°