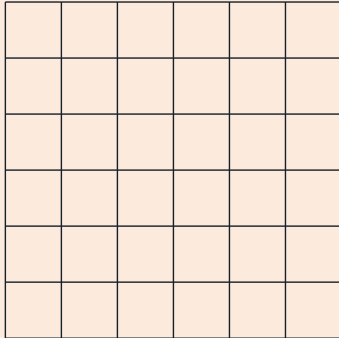


TWO-STEP TRANSFORMATION ON A GRID

- 1 Start with triangle vertices A at (2,4), B at (4,4), C at (3,6).
- 2 Apply a flip across the y-axis: A moves to (-2,4), B to (-4,4), C to (-3,6).
- 3 Then slide 3 squares down: A ends at (-2,1), B at (-4,1), C at (-3,3).

WARM-UP

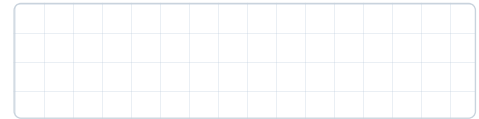
Complete the symmetric grid picture using the moves below.



1. Mark the starting triangle with vertices A(1,5) B(5,5) C(3,8).
2. After flip across y-axis mark the new positions of A B and C.
3. After slide 3 down mark the final positions of A B and C.

PRACTICE

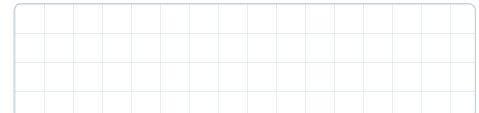
- 1 Your game piece starts at (2, 3). Slide it 2 squares right, then flip it across the y-axis. Where does it finish?



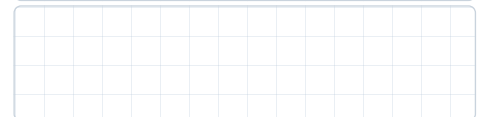
- 2 Your play token starts as a triangle; flip it across the x-axis mirror then slide 4 squares up to match the goal outline.

Flip the triangle across the x-axis then slide it 4 squares up.

- 3 In the board game, flip the triangle across the y-axis then turn it a quarter-turn clockwise around its center to land on the dashed target.

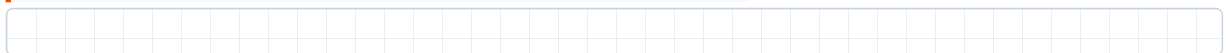


- 4 Your game piece starts at (4, 1). Slide it 3 squares right, then flip it across the x-axis. Where does it finish?



- 5 Your puzzle piece needs two slides of 5 right then 2 up; see if swapping the order still reaches the same play position.

Two slides: 5 right followed by 2 up, then check if order can swap.



? ALWAYS, SOMETIMES, NEVER

Always, sometimes or never true? Write A, S or N.

- | | |
|---|---|
| a. A slide then a flip lands in the same place as a flip then a slide. <input type="text"/> | c. A flip across the y-axis then a slide down keeps the shape the same size. <input type="text"/> |
| b. Two slides can be done in either order and reach the same place. <input type="text"/> | d. A flip across the x-axis then a slide changes the number of vertices. <input type="text"/> |

