## Application Lesson Opener

For use with pages 421-428
Large airports have many different ways of transporting people and their baggage. In the story below, Abigail is transported by three different mechanical devices. Each time, Abigail is moved from one point to another in a straight line, which models a translation.

Abigail arrives at the airport, parks her car in the parking garage, and walks to an elevator. She gets in the elevator at the fourth floor and goes to the first floor to check in. After checking in, she takes an escalator to the second floor and walks to the gate area. Instead of walking from Gate 1 to Gate 17 , she stands on the moving walkway.

1. Name the three mechanical devices in the story that transport Abigail. Match each device with a figure below that shows her movement. Point $A$ represents Abigail, and the image point $A^{\prime}$ represents her new position after the translation.


## Figure 1



Figure 3

Figure 2
2. For each of the three mechanical devices, write a sentence that describes the change in position of Abigail. Your descriptions should include answers to some of the following questions. Was her movement horizontal, vertical, or both? What was the direction of her movement? How far did she move?

