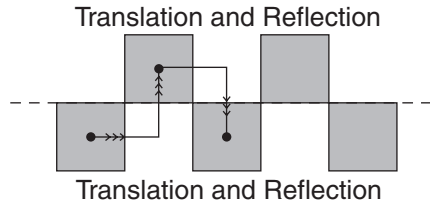
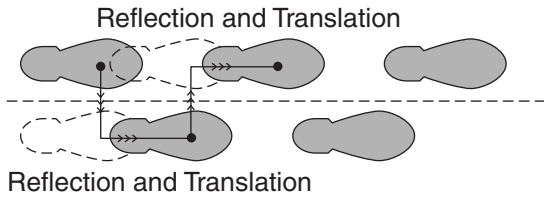


Challenge

Glide Reflections

A **glide reflection** is a transformation made by moving a figure with a translation *and* a reflection. Here are some examples of glide reflections.

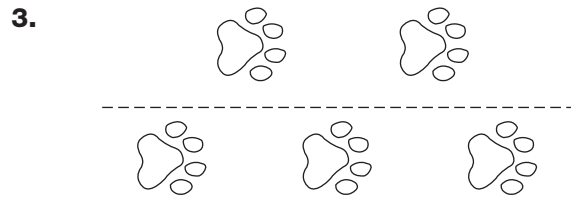
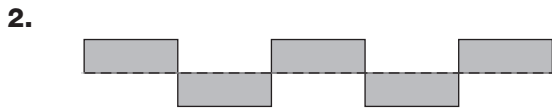


Footprints are a great example of glide reflections.

Glide reflections are used to make patterns.

- Predict** Think of another real world example where glide reflections are used.

How was each glide reflection created? Draw arrows to help explain.



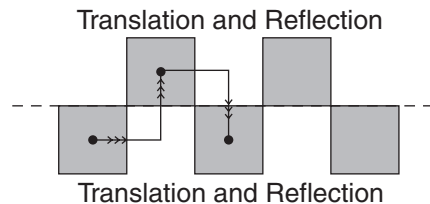
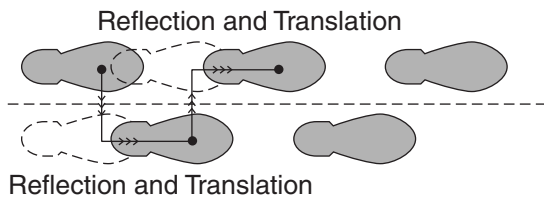
- Analyze** Look at the glide reflections of the squares at the top of this page. Explain how to make this pattern using other transformations.

- Extend It** Not all figures moved with a translation and a reflection are glide reflections. Look at what the glide reflections above have in common to help answer this question.

Challenge

Glide Reflections

A **glide reflection** is a transformation made by moving a figure with a translation *and* a reflection. Here are some examples of glide reflections.



Footprints are a great example of glide reflections.

Glide reflections are used to make patterns.

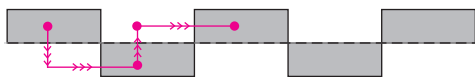
1. **Predict** Think of another real world example where glide reflections are used.

Sample answers: patterns in clothes; checkerboard

How was each glide reflection created? Draw arrows to help explain.

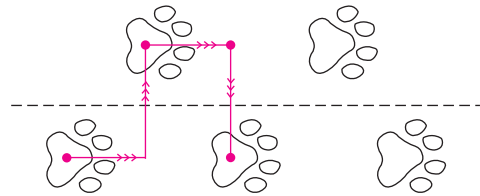
Answers may vary.

2.



The rectangle is reflected over the line and then is moved to the right using a translation.

3.



The footprint is moved to the right using a translation and then is reflected over the line.

4. **Analyze** Look at the glide reflections of the squares at the top of this page. Explain how to make this pattern using other transformations. **Sample answer:**

You can move the squares diagonally using translations.

5. **Extend It** Not all figures moved with a translation and a reflection are glide reflections. Look at what the glide reflections above have in common to help answer this question.

Sample response: The figures in glide reflections all have to be reflected and translated the same way.

The figure also has to have symmetry.