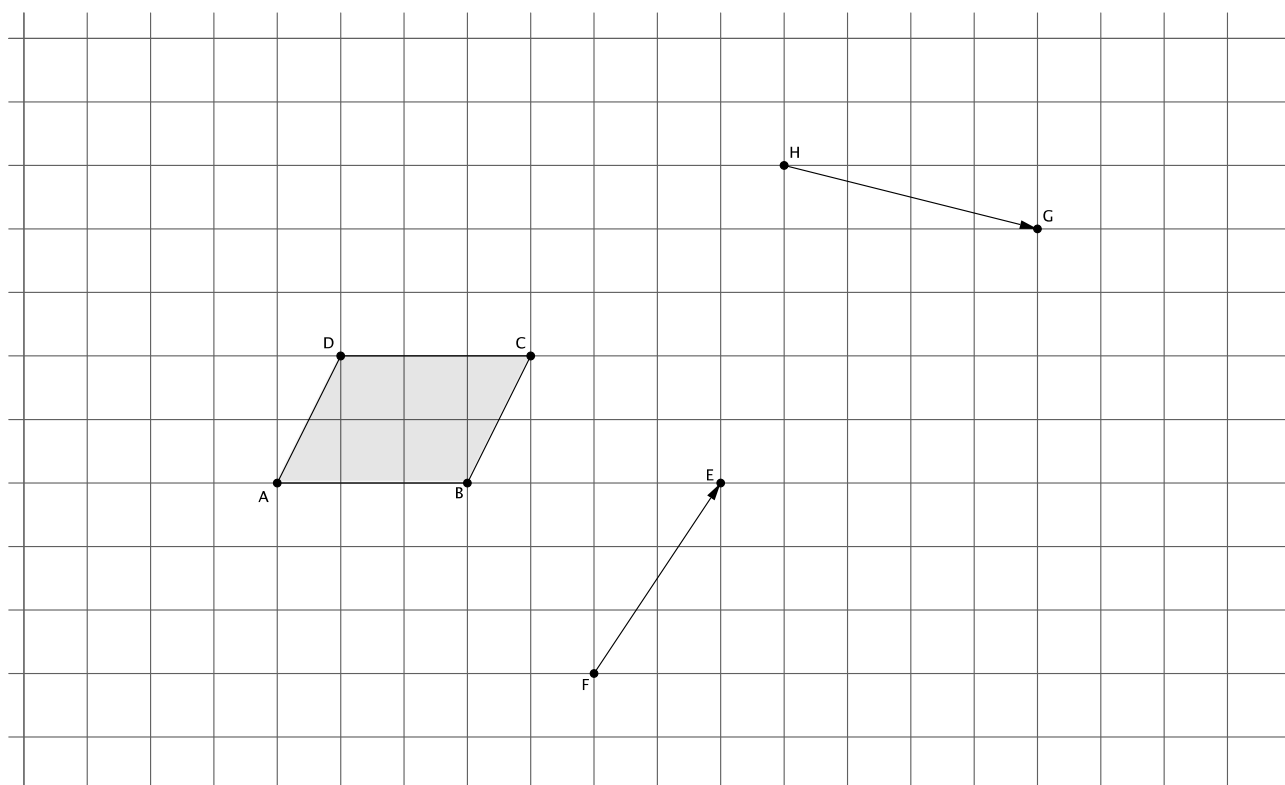


## Lesson Summary

- Translating a figure along one vector and then translating its image along another vector is an example of a sequence of transformations.
- A sequence of translations enjoys the same properties as a single translation. Specifically, the figures' lengths and degrees of angles are preserved.
- If a figure undergoes two transformations,  $F$  and  $G$ , and is in the same place it was originally, then the figure has been mapped onto itself.

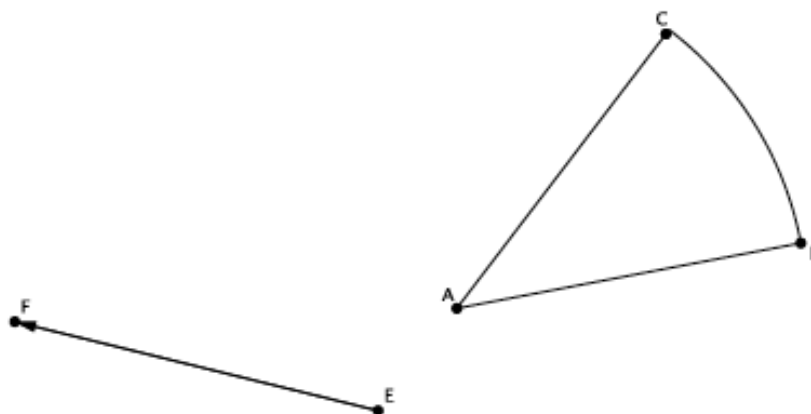
## Problem Set

1. Sequence translations of parallelogram  $ABCD$  (a quadrilateral in which both pairs of opposite sides are parallel) along vectors  $\overrightarrow{HG}$  and  $\overrightarrow{FE}$ . Label the translated images.



2. What do you know about  $\overline{AD}$  and  $\overline{BC}$  compared with  $\overline{A'D'}$  and  $\overline{B'C'}$ ? Explain.
3. Are the segments  $A'B'$  and  $A''B''$  equal in length? How do you know?

4. Translate the curved shape  $ABC$  along the given vector. Label the image.



5. What vector would map the shape  $A'B'C'$  back onto shape  $ABC$ ?