3.2: Proving Figures are Congruent Using Rigid Motion

**Congruent:** Having the same shape and size.

Two figures are congruent if and only if one can be obtained from the other by a sequence of rigid motions.

**Notation:**

Use the definition of congruence to decide whether the two figures are congruent. Explain your answer. Give coordinate notation for the transformations you use.
The figures shown are congruent. Find a sequence of rigid motions that maps one figure to the other. Give coordinate notation for the transformations you use.

Reflect across y-axis
Rotation 1
Down 4

\((x, y) \rightarrow (-x, y)\)
\((x, y) \rightarrow (x, y-4)\)

Component \(\langle 1, -4 \rangle\)

Determine which of the angles are congruent. Which transformations can be used to verify the congruence?

\(\overline{GH} \cong \overline{EF}\)
\(\angle B \cong \angle C\)
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