



Rigid motions

GRADE 8 MATH

Name _____

Date _____

Use tracing paper and a ruler. Measure before and after — do not just assert.

WORKED EXAMPLE

Rigid motions change position only: same lengths, same angles, parallel stays parallel. Reflection reverses the corner order; rotation does not.

1. Name the three rigid motions and say what each one does.

FLUENCY

Show your thinking

Answer

2. Triangle with corners $(1,1)$, $(4,1)$, $(1,3)$ is translated 5 right, 2 up. Give the new corners.

APPLICATION

Show your thinking

Answer

3. Measure one side of your triangle before and after that translation. What do you find?

APPLICATION

Show your thinking

Answer

4. Reflect $(1,1)$, $(4,1)$, $(1,3)$ in the x-axis. Give the new corners.

APPLICATION

Show your thinking

Answer

5. Rotate the same triangle 180° about the origin. Give the new corners.

APPLICATION

Show your thinking

Answer

6. Compare your answers to items 4 and 5. How could you tell which was the reflection?

REASONING

Show your thinking

Answer

7. Why can a reflection and a rotation look identical when applied to a rectangle?

REASONING

Show your thinking

Answer

8. A shape's angles are 40° , 60° and 80° . After a rotation of 90° , what are they?

FLUENCY

Show your thinking

Answer

9. Design an experiment to check that reflections preserve angle measures.

REASONING

Show your thinking

Answer