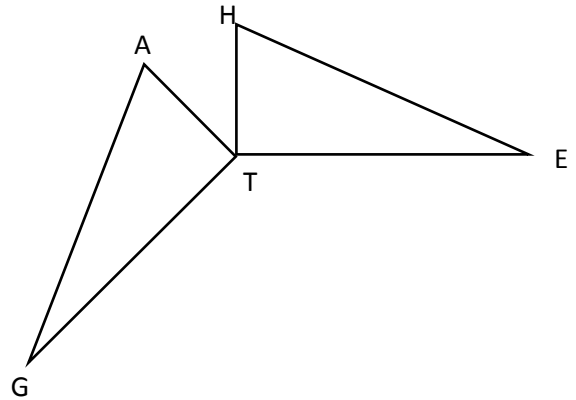


Unit 4 Test Replacement Points

Be sure to show all work. Up to 6 test points may be earned if you successfully complete ALL the problems.

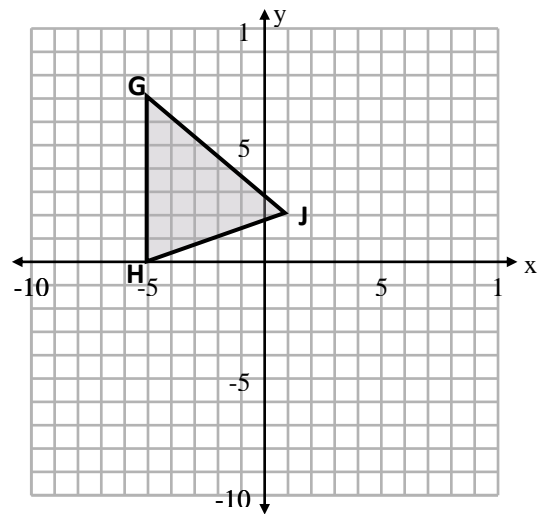
A. Using rigid motions, map $\triangle THE$ onto $\triangle TAG$.

- 1) _____ $\triangle THE$ around point _____ by the measure of angle _____ to map T onto _____, H onto _____, E onto _____.
- 2) _____ $\triangle TAE'$ into line _____ to map T onto _____, A onto _____, and E' onto _____.



B. Translate $\triangle GHJ$ by the vector $\langle 5, -1 \rangle$.

- 1) Graph and label the image.
- 2) State the coordinates of the image vertices.
 G' _____
 H' _____
 J' _____
- 3) Were any of the pre-image points invariant? _____



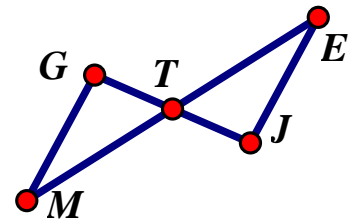
C. Do the following formal proof as a 2-column, flowchart, or paragraph

Given: T is the midpoint of \overline{ME} & T is the midpoint of \overline{GJ}

Prove: $\overline{GM} \parallel \overline{JE}$

Steps:

- 1) Prove $\triangle GMT \cong \triangleJET$



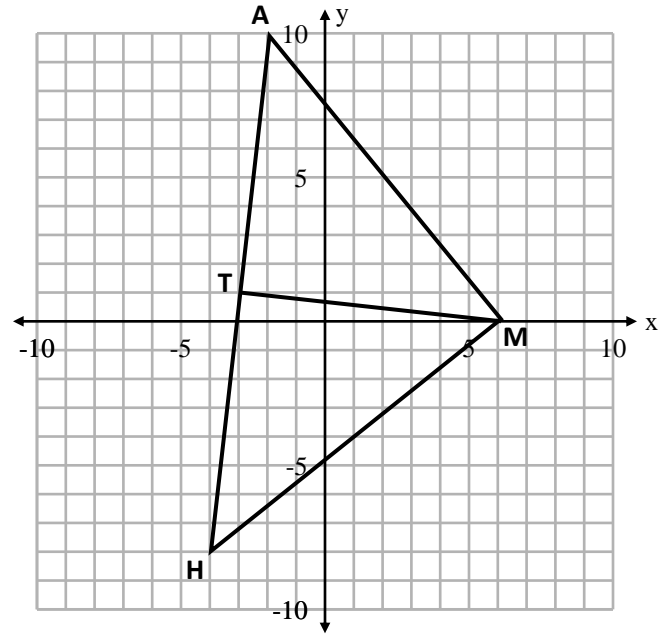
- 2) Prove $\angle M \cong \angle E$

- 3) Prove $\overline{GM} \parallel \overline{JE}$

D. Given $M(6,0)$, $A(-2,10)$, $T(-3,1)$, $H(-4,-8)$. Using a coordinate geometry proof, prove $\triangle MAT \cong \triangle MHT$ by RHL \cong .

Remember your tools are slope (\rightarrow line relationships), distance (\rightarrow equal length to congruent segments), midpoint.

- 1) Prove the triangles $\triangle MAT$ and $\triangle MHT$ are both RIGHT triangles:



- 2) Prove the triangles have a set of corresponding congruent legs: *(You can do this one without calculations)*

- 3) Prove the triangles have congruent hypotenuses:

- 4) Write your triangle congruency statement with the criteria: