Proving the Triangle Congruence Theorems Sentence Frames for Proofs

| Transformations: | |
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| • | Translate from to |
| • | Rotate using as the center by angle |
| • | Rotate using as the center so that coincides with |
| • | Reflect across |
| • | Reflect across the perpendicular bisector of |
| • | Segments and are the same length so they are congruent. Therefore, there is a |
| | rigid motion that takes to Apply that rigid motion to |
| luc | tifications: |
| - | We know the image of is congruent to because rigid motions preserve |
| | measure. |
| • | Points and coincide after translating because we defined our translation that |
| | way! |
| • | Since points and are the same distance along the same ray from they |
| | have to be in the same place. |
| • | Rays and coincide after rotating because we defined our rotation that way! |
| • | The image of must be on ray since both and are on the same |
| | side of and make the same angle with it at |
| • | Points and coincide because they are both at the intersection of the same |
| | lines, and 2 distinct lines can only intersect in 1 place. |
| • | is the perpendicular bisector of the segment connecting and, because |
| | the perpendicular bisector is determined by 2 points that are both equidistant from the |
| | endpoints of a segment. |
| Col | nclusion statement: |
| • | We have shown that a rigid motion takes to, to, and to |
| - | , therefore triangle is congruent to triangle |
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