Name: _____

7.3 & 7.4 – SSS & SAS Congruence Theorems

Past due on _____ *Period* _____

Perform the transformation described on each given triangle. Then determine whether the triangles are congruent by SSS or SAS. Use the Distance Formula and a protractor when necessary.

1. Reflect $\triangle JKL$ over the *x*-axis to form $\triangle MNP$. Are the triangles congruent by SSS? Show all work and explain your reasoning.
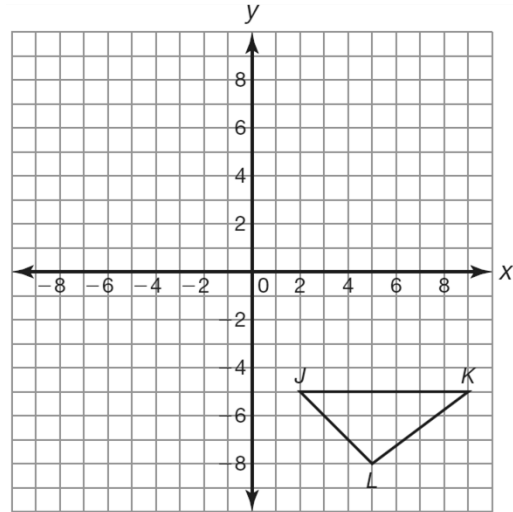
2. Translate $\triangle DEF$ 11 units to the left and 10 units down to form $\triangle QRS$. Are the triangles congruent by SAS? Show all work and explain your reasoning.
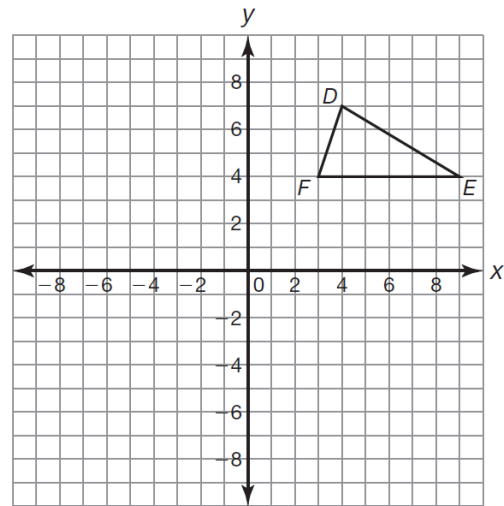
3. Rotate $\triangle AFP$ 90° counterclockwise about the origin to form $\triangle DHW$. Are the triangles congruent by SSS? Show all work and explain your reasoning.
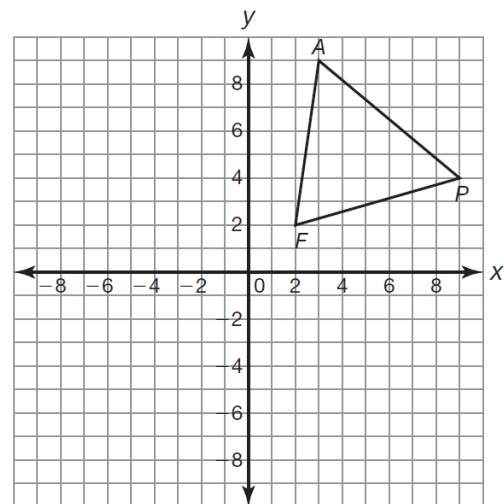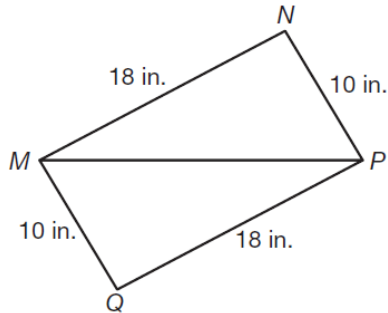
Determine the angle measure or side measure that is needed in order to prove that each set of triangles are congruent by SAS.
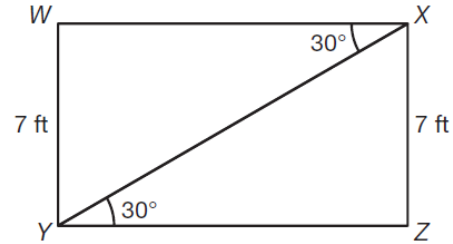
4. In $\triangle ART$, $AR = 12$, $RT = 8$, $\& \, m\angle R = 70°$. In $\triangle BSW$, $BS = 12$, $\& \, m\angle S = 70°$.

5. In $\triangle CDE$, $CD = 7 \, \& \, DE = 11$. In $\triangle FGH$, $FG = 7$, $GH = 11$, $\& \, m\angle G = 45°$.

Determine whether there is enough information to prove that each pair of triangles are congruent by SSS or SAS. Explain your reasoning.
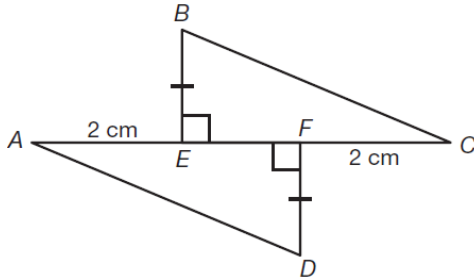
6. $\triangle MNP \cong \triangle PQM$
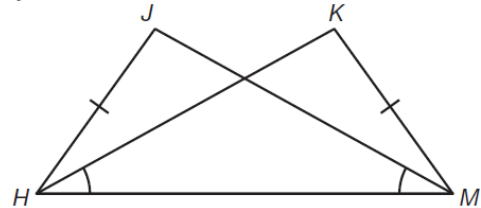

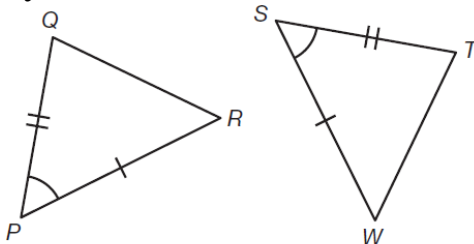7. $\triangle WXY \cong \triangle ZYX$

8. $\triangle BCE \cong \triangle DAF$

9. $\triangle HJM \cong \triangle MKH$

10. $\triangle PQR \cong \triangle STW$

11. $\triangle MAT \cong \triangle MHT$

Chapter 6: Similarity Through Transformations