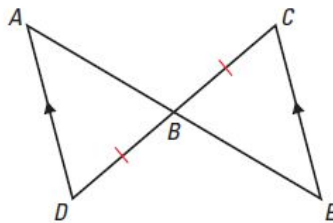


SchoolNova, Math 5c
Homework 21
Triangles - Part IV
March 29, 2020

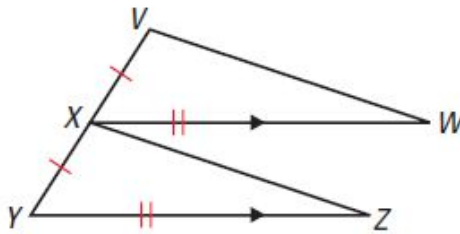
Please provide sufficient details about how you solved the problem. More difficult problems are marked with a *. If unable to solve a problem, please present your thoughts and any partial solution.

In the following problems, you will be utilizing any of the SSS, SAS, ASA and AAS Postulates for congruent triangles.

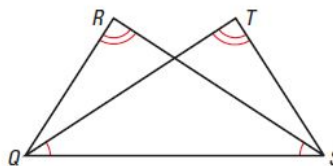
1. Given that $\overline{AD} \parallel \overline{EC}$ and $\overline{BD} \cong \overline{BC}$, show that $\triangle ABD \cong \triangle ECB$.



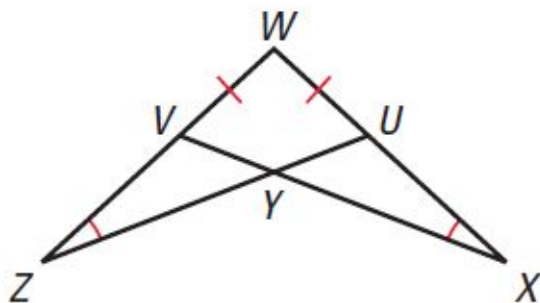
2. Given $\overline{VX} \cong \overline{XY}$, $\overline{XW} \cong \overline{YZ}$ and $\overline{XW} \parallel \overline{YZ}$, show that $\triangle VXW \cong \triangle XYZ$.



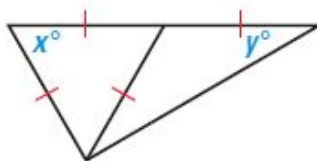
3. Given $\angle TQS \cong \angle RSQ$ and $\angle R \cong \angle T$, show that $\triangle TQS \cong \triangle RSQ$.



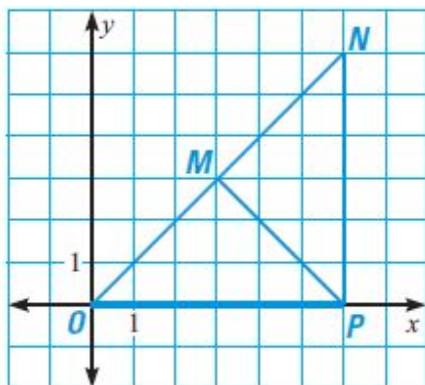
4. Given $\overline{VW} \cong \overline{UW}$ and $\angle X \cong \angle Z$, show that $\triangle XWV \cong \triangle ZWU$.



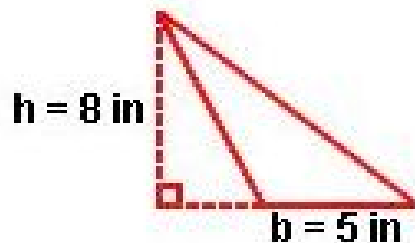
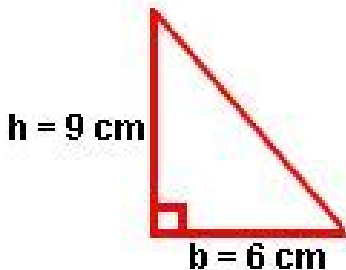
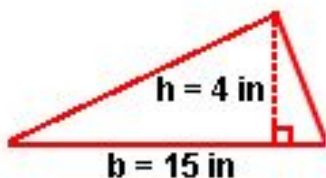
5. Using equilateral and isosceles triangle properties, determine $m\angle x$ and $m\angle y$ in the following figure:



6. * Describe how to show that $\triangle PMO \cong \triangle PMN$ using the SSS Congruence Postulate. Then find a way to show that the triangles are congruent using the SAS Congruence Postulate. You may not use protractor to measure any angles. Compare the two methods. Which do you prefer? Why?



7. Find the area of the following triangles using the expression $Area = \frac{1}{2} base \times height$.



8. Use Pythagorean Theorem to determine the length of the hypotenuse in the following right triangle:

