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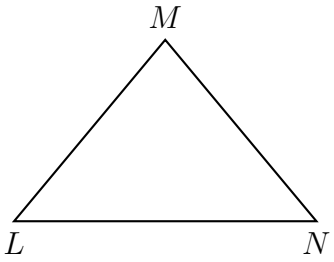
BECA / Dr. Huson / Geometry 03 Parallels and transversals

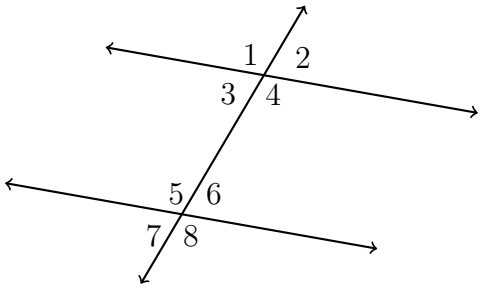
3.8 Triangle angles

1. Do Now: Given isosceles $\triangle LMN$, $\overline{LM} \cong \overline{NM}$. If $m\angle L = 5x - 3$ and $m\angle N = 7x - 27$, find $m\angle M$.



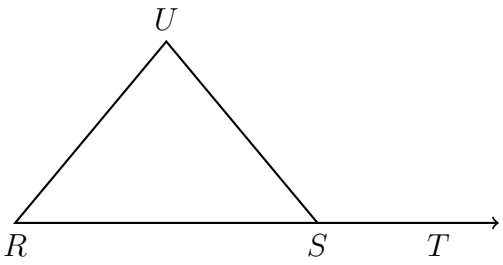
2. Find $m\angle 1$ given two parallel lines and a transversal, with

   $m\angle 4 = 12(7x - 4)$ $\quad$ $m\angle 6 = 6(7x - 4)$



3. The measures in degrees of the three angles of a triangle are $2x$, $\frac{2}{5}x$, and $\frac{1}{10}x$. Find the measures of the triangle's angles.

4. Given $\triangle RSU$. If $m\angle UST = x + 50$, $m\angle R = x - 20$, and $m\angle U = x + 10$, find $m\angle R$.

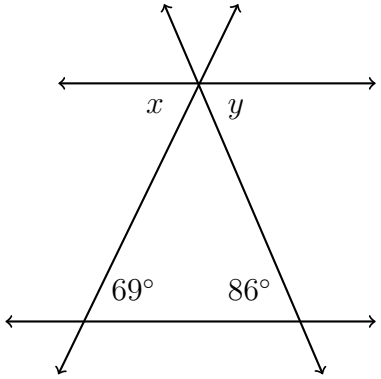


5. Given two parallel lines, two transversals

   (a) Find x, y

   (b) What relationship are you using?

   (e.g. vertical angles, same-side exterior angles, alternate interior angles, etc.)



6. A triangle has two angles measuring x° and y° respectively. Find the measure of the third angle as an expression of x and y.

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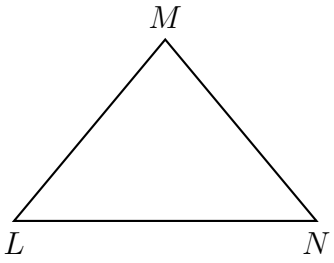
7. Given $\triangle LMN$ with $m\angle L = 2x + 20$, $m\angle N = 3x + 5$, and $m\angle M = 5x + 5$. Find x.



8. The measures in degrees of the three angles of a triangle are $3x$, $\frac{1}{2}x + 7$, and $5x - 65$. Find x.

9. Angles APC and CPD form a linear pair. $m\angle APC = 10x+15$ and $m\angle CPD = 3x-4$. Find $m\angle CPD$. Check your answer for full credit.