

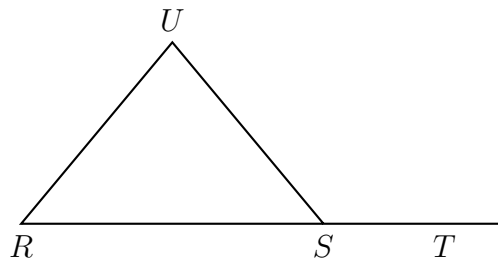
Name:

BECA / Dr. Huson / Geometry 03 Parallels and transversals

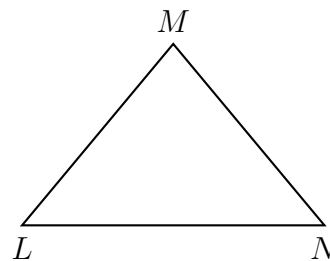
3.7 Isosceles triangle base theorem

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

2. Given $\triangle RSU$. If $m\angle UST = x$ and $m\angle R = x - 80$, and $m\angle U = x - 50$.



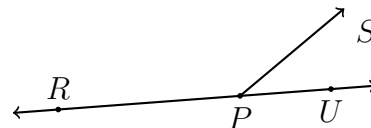
3. Given isosceles $\triangle LMN$ with $\overline{LM} \cong \overline{NM}$. If $m\angle L = 2x + 20$ and $m\angle N = 3x + 5$, find $m\angle M$.



4. Do Not Solve. Circle the appropriate equation, cite a justification:

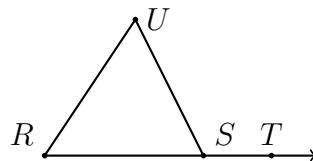
- “definition of bisector”
- “linear pairs sum to 180° ”
- “vertical \angle s are \cong ”
- “alternate interior \angle s are \cong ”
- “corresponding \angle s of \parallel lines are \cong ”
- “same-side interior \angle s are supplementary”
- “ \perp rays with complementary \angle s adding to 90° ”

(a) $\overleftrightarrow{RP\bar{U}}$ with ray \overrightarrow{PS} .



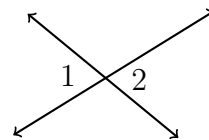
$$\angle RPS \cong \angle SPU \quad m\angle RPS + m\angle SPU = 180^\circ \quad \underline{\hspace{2cm}}$$

(b) Given $m\angle R = m\angle U = 65$, and $m\angle UST = 130$. Find $m\angle RSU$.



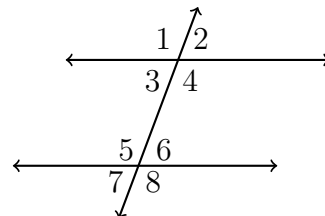
$$\angle UST \cong \angle RSU \quad m\angle UST + m\angle RSU = 180 \quad \underline{\hspace{2cm}}$$

(c) Given $m\angle 1 = 4x + 6$, $m\angle 2 = 6x - 32$. Find $m\angle 1$.



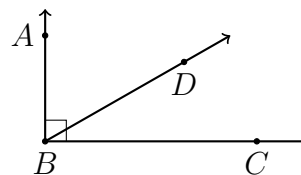
$$\angle 1 \cong \angle 2 \quad m\angle 1 + m\angle 2 = 180 \quad \underline{\hspace{2cm}}$$

(d) Given two parallel lines and a transversal, as shown.



$$\angle 4 \cong \angle 5 \quad m\angle 3 + m\angle 6 = 180 \quad \underline{\hspace{2cm}}$$

(e) Given $\overrightarrow{BA} \perp \overrightarrow{BC}$, $m\angle ABD = 2x - 5$, and $m\angle DBC = x - 10$.



$$\angle ABD \cong \angle DBC \quad m\angle ABD + m\angle DBC = 90 \quad \underline{\hspace{2cm}}$$