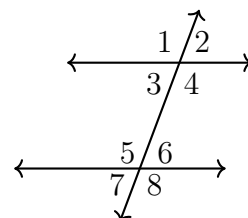


Name: _____

3.6 Classwork: Parallel lines and transversal situations

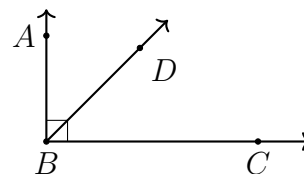
1. Do Not Solve. Circle the appropriate equation, cite a justification:

- | | |
|--------------------------------------|--|
| • “vertical \angle s are \cong ” | • “corresponding \angle s of \parallel lines are \cong ” |
| • “definition of bisector” | • “alternate interior \angle s are \cong ” |
| • “linear pairs sum to 180° ” | • “same-side interior \angle s are supplementary” |
| • “triangle external angle theorem” | |



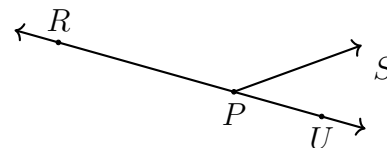
(a) Given two parallel lines intersect a transversal, as shown.

$\angle 2 \cong \angle 6$ $m\angle 2 + m\angle 6 = 180$ _____



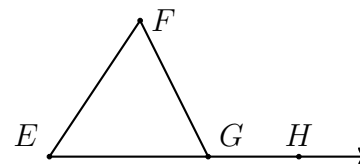
(b) Given $\overrightarrow{BA} \perp \overrightarrow{BC}$, with \overrightarrow{BD} bisecting $\angle ABC$.

$\angle ABD \cong \angle DBC$ $m\angle ABD + m\angle DBC = 180$ _____



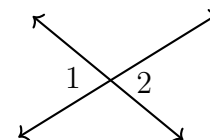
(c) \overleftrightarrow{RP} with ray \overrightarrow{PS} .

$\angle RPS \cong \angle SPU$ $m\angle RPS + m\angle SPU = 180^\circ$ _____



(d) Given $\triangle EFG$, with side extended as \overrightarrow{EGH} .

$\angle E \cong \angle F$ $m\angle E + m\angle F = m\angle FGH$ _____

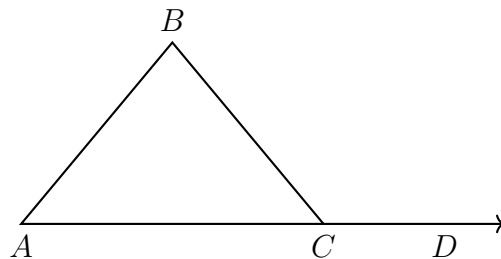


(e) Given $m\angle 1 = 4x + 6$, $m\angle 2 = 6x - 32$. Find $m\angle 1$.

$\angle 1 \cong \angle 2$ $m\angle 1 + m\angle 2 = 180$ _____

2

2. Given $\triangle ABC$ with side \overline{AC} extended through D as shown. Find x if $m\angle A = 31$, $m\angle B = 5x$, and $m\angle BCD = 131$.



3. The measures in degrees of the three angles of a triangle are $2x$, $\frac{7}{6}x$, and $\frac{4}{3}x$. Find the measures of the triangle's angles.

4. Given isosceles $\triangle JKL$ with $\overline{JL} \cong \overline{KL}$, and $m\angle J = 5x - 12$ and $m\angle K = 3x + 16$.
- Mark the congruent sides and angles of the triangle
 - Find $m\angle L$

