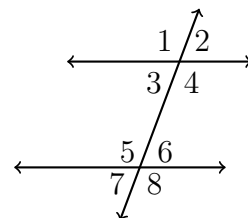


Name:

### 3.8 Review: Parallel lines and transversal situations

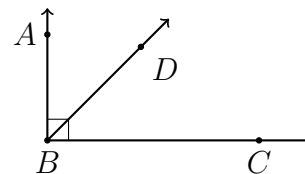
1. Do Not Solve. Circle the appropriate equation, cite a justification:

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



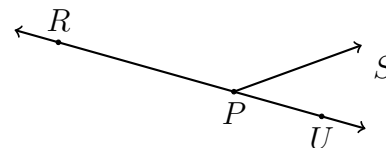
(a) Given two parallel lines intersect a transversal, as shown.

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



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

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

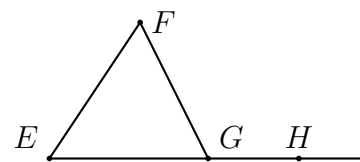


(c)  $\overleftrightarrow{RP}$  with ray  $\overrightarrow{PS}$ .

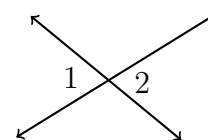
$$\angle RPS \cong \angle SPU \quad m\angle RPS + m\angle SPU = 180^\circ \quad \underline{\hspace{2cm}}$$

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

$$\angle E \cong \angle F \quad m\angle E + m\angle F = m\angle FGH \quad \underline{\hspace{2cm}}$$



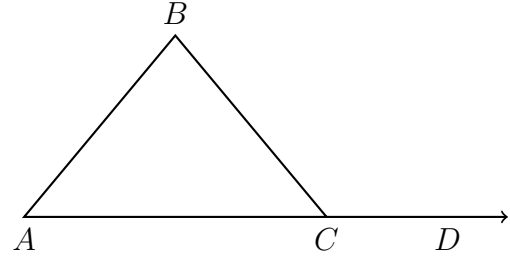
(e) Given  $m\angle 1 = 4x + 6$ ,  $m\angle 2 = 6x - 32$ . Find  $m\angle 1$ .



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

Name:

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  $m\angle K = 3x + 16$ .
- (a) Mark the congruent sides and angles of the triangle
- (b) Find  $m\angle L$

