Geometry Proofs Review

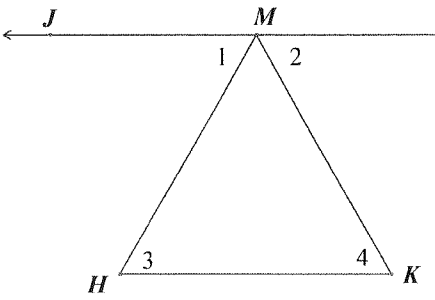
Name:_____

Period:_____

1. Given: $\angle 1 \cong \angle 2$

$\overrightarrow{JM} \parallel \overline{HK}$

Prove: ΔHMK is isosceles



Statement	Reason

2. Solve each equation and state the property of equality or arithmetic as a reason to solve the equation.

a.

$3(x-11)=15$ _____

$3x-33=15$ _____

_____ Addition Property

$x=16$ _____

b.

$\frac{1}{3}(x-1)=9$ _____

_____ _____

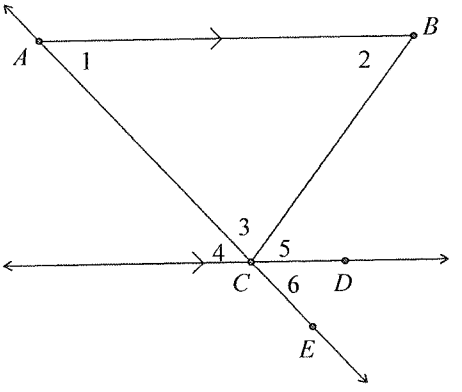
_____ _____

_____ _____

3. Complete the proof below.

Given: ΔABC with exterior angle $\angle BCE$ and $\overrightarrow{CD} \parallel \overline{AB}$.

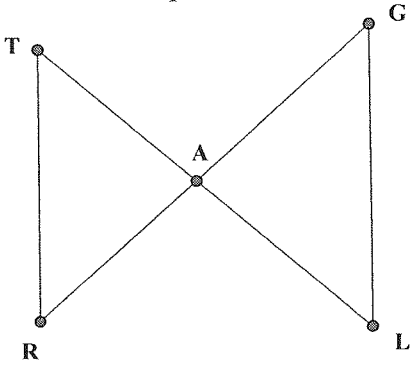
Prove: $m\angle 1 + m\angle 2 = \angle BCE$



Statement	Reason
1. $\overrightarrow{CD} \parallel \overline{AB}$	1. Given
2. $\angle 2$ and $\angle 5$ are alternate interior angles. $\angle 1$ and $\angle 4$ are alternate interior angles.	2.
3. $\angle 2 \cong \angle 5$, $\angle 1 \cong \angle 4$	3.
4.	4. Definition of Vertical Angles
5. $\angle 4 \cong \angle 6$	5.
5. $\angle 1 \cong \angle 6$	5. Transitive property
6. $m\angle 5 + m\angle 6 = \angle BCE$	6.
7. $m\angle 1 + m\angle 2 = \angle BCE$	7.

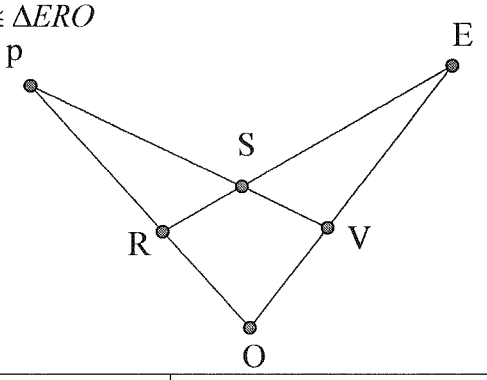
#4-5. Write a two-column proof for the statements below.

4. Given: $\angle T \cong \angle L$ and A is a midpoint of $\overline{RG}$
   Prove: $\overline{TR} \cong \overline{GL}$



Statement	Reason

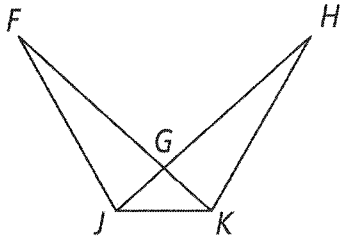
5. Given: $\overline{PO} \cong \overline{EO}$ and $\angle P \cong \angle E$
   Prove: $\Delta PVO \cong \Delta ERO$



Statement	Reason

Create a **flowchart** proof.

6. Given: $\angle FJK \cong \angle HKJ, \overline{FJ} \cong \overline{HK}$
   Prove: $\angle F \cong \angle H$



7. Define the following terms:

postulate_____

definition_____

theorem_____