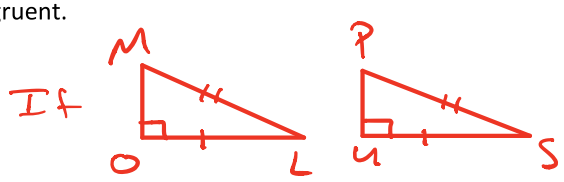
Triangle Congruence – HL

Notes Section 4.4 Name_____

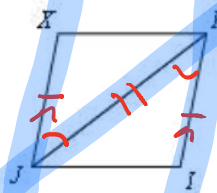
HL Congruence Theorem (HL) – If the hypotenuse and leg of one right triangle are congruent to the hypotenuse and leg of another right triangle, then the triangles are congruent.



then $\Delta MOL \cong \Delta PUS$

Given: $\overline{XJ} \cong \overline{HI}$
$\overline{XJ} \parallel \overline{IH}$

Prove: $\overline{XH} \cong \overline{JI}$

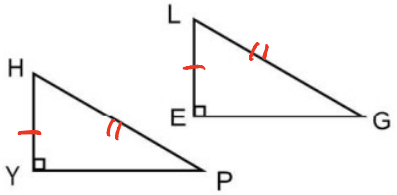


WHY ARE THE TWO TRIANGLES CONGRUENT? SAS

STATEMENTS	REASONS
1. $\overline{XJ} \parallel \overline{IH}$ $\overline{XJ} \cong \overline{HI}$	1. Given
2. $\angle XJH \cong \angle JHI$	2. Alt Int $\angle$s Th'm
3. $\overline{JH} \cong \overline{JH}$	3. Congruence of Segments is Refle
4. $\Delta XJH \cong \Delta IHJ$	4. SAS Postulate
5. $\overline{XH} \cong \overline{JI}$	5. CPCTC

Given: $\angle HYP$ and $\angle LEG$ are right angles
$\overline{HY} \cong \overline{EL}$
$\overline{HP} \cong \overline{LG}$

Prove: $\Delta HYP \cong \Delta LEG$

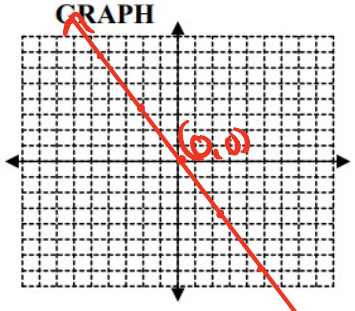
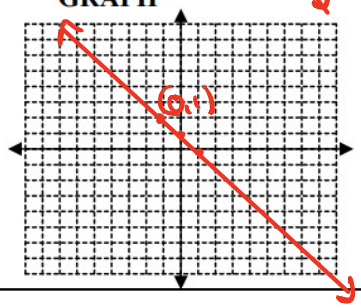


WHY ARE THE TWO TRIANGLES CONGRUENT? HL

STATEMENTS	REASONS
1. $\angle HYP$ and $\angle LEG$ are right angles $\overline{HY} \cong \overline{EL}$ $\overline{HP} \cong \overline{LG}$	1. Given
2. ΔHYP is a right Δ ΔLEG is a right Δ	2. Def'n of right Δ
3. $\Delta HYP \cong \Delta LEG$	3. HL Theorem

Triangle Congruence – HL

Notes Section 4.4 Name_____

ALGEBRA REVIEW		
SOLVE $26 = -7 + 3(2x - 4) - x$ $26 = -7 + 6x - 12 - x$ $26 = 5x - 19$ $45 = 5x$ $9 = x$	**GRAPH** $y = -\frac{3}{2}x$  	**MULTIPLY** $(2x - 1)(2x + 1)$ $= 4x - 2x + 2x - 1$ $= 4x - 1$
SOLVE $\frac{5}{12} = \frac{-8}{x}$ $\cdot 12x$ $5x = -96$ $x = \frac{-96}{5}$	**GRAPH** $y = 1 - x$  	**FACTOR** $x^2 + 23x + 42$ $= (x + 2)(x + 21)$