Grab a Bell Ringer and Hw Tracker!

Wednesday 1/2

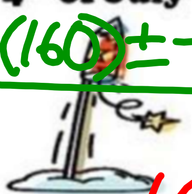
On the fourth of July fireworks are discharged and Follow a path given by $h = -16t^2 + 160t + 4$, where H is the height of the fireworks in feet and t is time In seconds.

(a = −16, b = 160, c = 4)

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

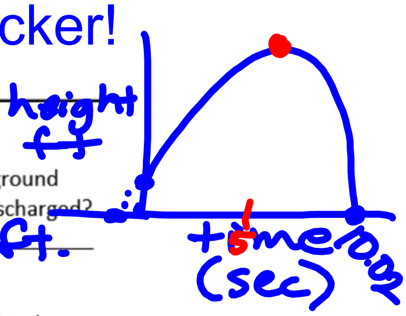
$$x = \frac{-(160) \pm \sqrt{(160)^2 - 4(-16)(4)}}{2(-16)}$$

4th of July



$$\frac{-b}{2a} \qquad \frac{-160}{2(-16)} =$$

$(5, 404)$

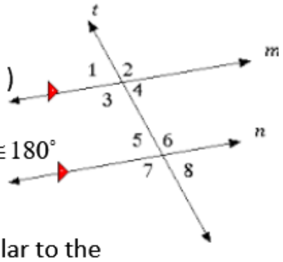


1. How high above the ground were the fireworks discharged? 4 ft.
2. When will the debris hit the ground? 10 sec.
3. How long did it take for the fireworks to reach their maximum height? 5 sec.
4. How high did the fireworks go in the air? 404 ft.

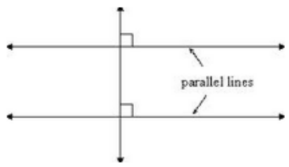
Yellow Sheet...

Parallel Lines and Transversals

Alternate Interior Angles: Congruent ($\angle 3 \cong \angle 6$ and $\angle 4 \cong \angle 5$)
Corresponding Angles: Congruent ($\angle 1 \cong \angle 5, \angle 3 \cong \angle 7, \angle 2 \cong \angle 6, \angle 4 \cong \angle 8$)
Alternate Exterior Angles: Congruent ($\angle 1 \cong \angle 8$ and $\angle 2 \cong \angle 7$)
Same Side Interior Angles: Supplementary ($\angle 3 + \angle 5 \cong 180^\circ$ and $\angle 4 + \angle 6 \cong 180^\circ$)
Converse of any of the above proves the lines are parallel

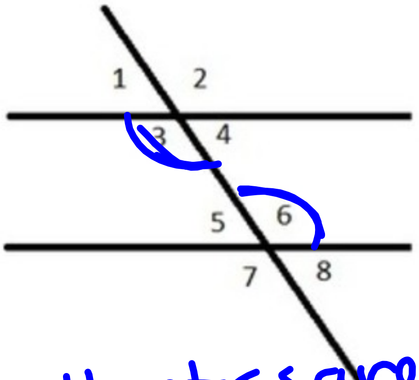


Perpendicular Transversal Theorem: If two lines in a plane are perpendicular to the same line, then they are parallel to each other.



Then If two parallel lines are cut by a transversal, then:

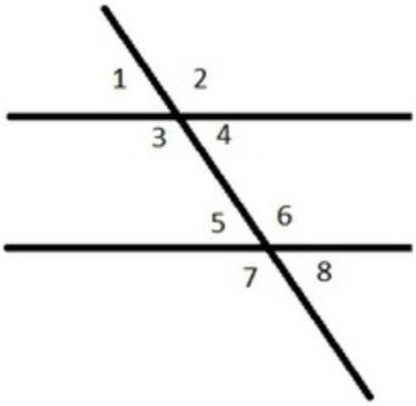
If **Alternate Interior Angles are Congruent**

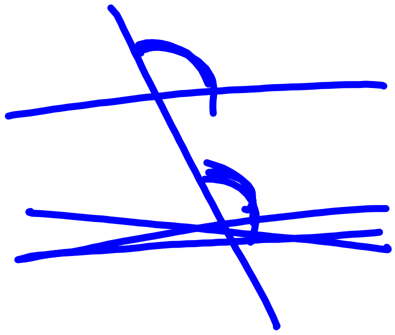


Converse: If alt int ∠s are ≅, then 2 lines are ||

If two parallel lines are cut by a transversal, then:

Corresponding Angles are Congruent

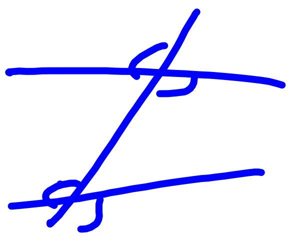


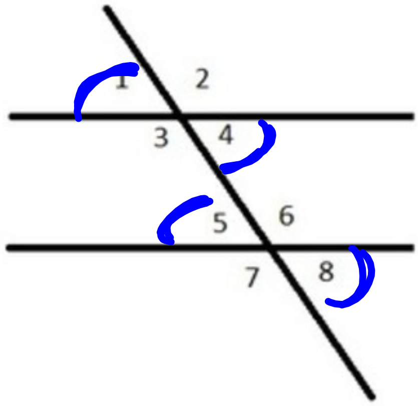


Converse:

If two parallel lines are cut by a transversal, then:

Alternate Exterior Angles are Congruent

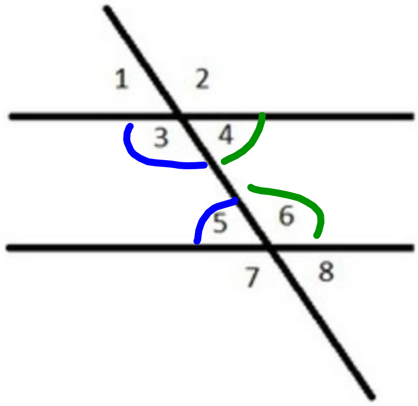




Converse:

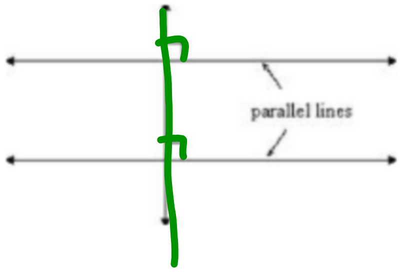
If two parallel lines are cut by a transversal, then:

Consecutive Interior Angles are Supplementary

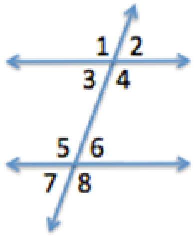


Converse:

Perpendicular Transversal Theorem: If two lines in a plane are perpendicular to the same line, then they are parallel to each other.



Corresponding Angles

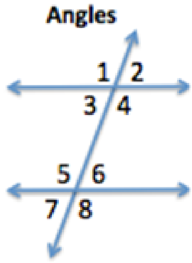


Examples:

∠1 and ∠5
∠2 and ∠6
∠3 and ∠7
∠4 and ∠8

≅

Alternate Interior Angles

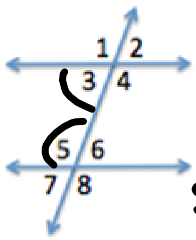


Examples:

∠3 and ∠6
∠4 and ∠5

≅

Consecutive Interior Angles

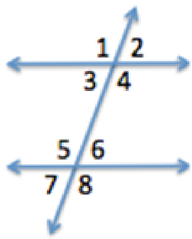


Examples:

∠3 and ∠5
∠4 and ∠6

Supp
sum to 180°

Alternate Exterior Angles

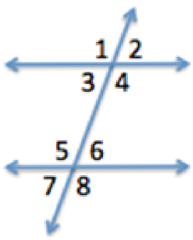


Examples:

∠1 and ∠8
∠2 and ∠7

≅

Vertical Angles

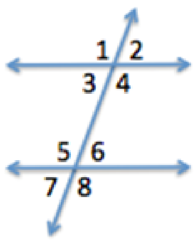


Examples:

∠1 and ∠4
∠2 and ∠3
∠5 and ∠8
∠6 and ∠7

≅

Linear Pair Angles



Examples:

∠1 and ∠2
∠2 and ∠4
∠3 and ∠4
∠3 and ∠1
∠5 and ∠6
∠6 and ∠8
∠8 and ∠7
∠7 and ∠5

180°
Supp

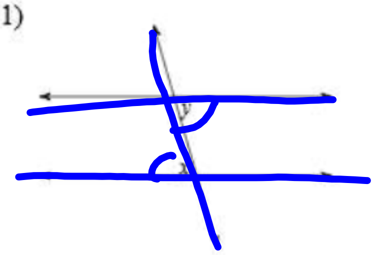
due Friday

Name: ______________________________Hour:________

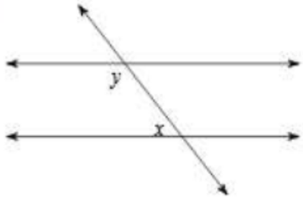
6.4-6.5A Parallel Lines and Transversals Proofs

Identify each pair of angles as corresponding, alternate interior, alternate exterior, consecutive interior, vertical, or linear pair.

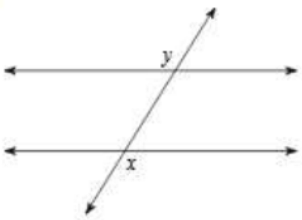
1)

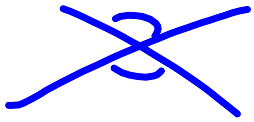


2)

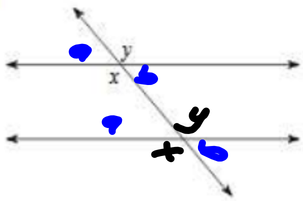


3)



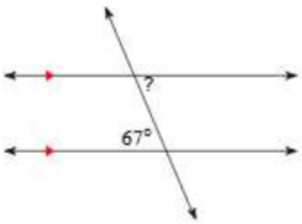


4)

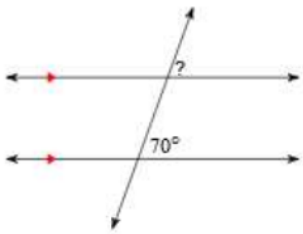


Find the measure of each angle indicated.

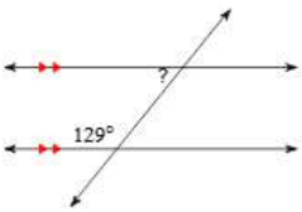
5)



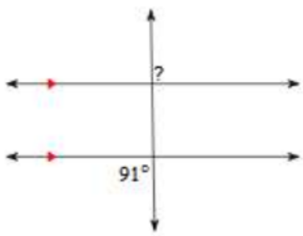
6)



7)



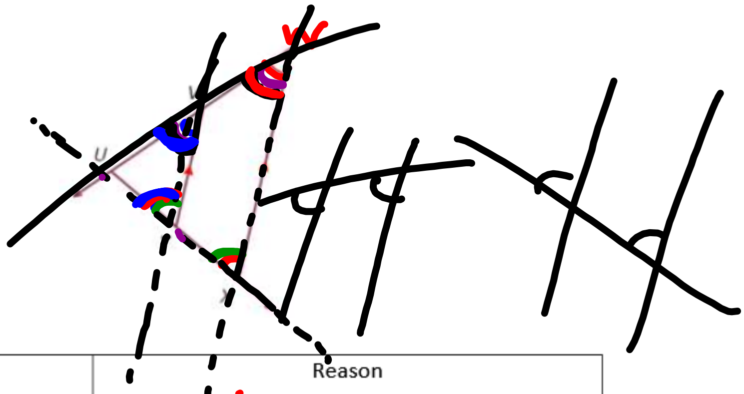
8)



9) Given: $\angle WXY \cong \angle W$

$\overleftrightarrow{VY} \parallel \overleftrightarrow{WX}$

Prove: $\angle UYV \cong \angle UVY$



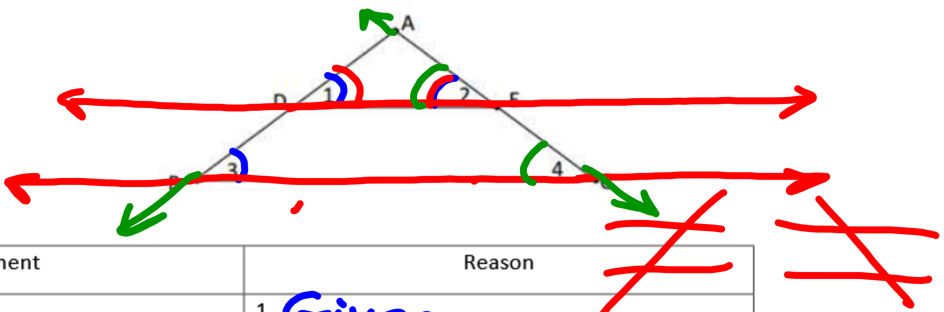
Statement	Reason
1. $\angle WXY \cong \angle W$	1. Given
2. $\overleftrightarrow{VY} \parallel \overleftrightarrow{WX}$	2. Given
3. $\angle WXY \cong \angle UYV$	3. Corresp. <s are ≅
4. $\angle W \cong \angle UVY$	4. Corresp <s are ≅
5. $\angle W \cong \angle UYV$	5. Transitive Prop
6. $\angle UYV \cong \angle UVY$	6. Transitive Prop

If a≅b & b≅c, then a≅c

10) Given: $m\angle 1 = m\angle 3$

$m\angle 1 = m\angle 2$

Prove: $m\angle 3 = m\angle 4$

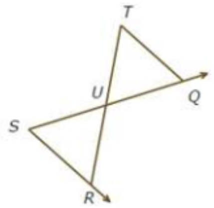


Statement	Reason
1. $m\angle 1 = m\angle 3$	1. Given
2. $m\angle 1 = m\angle 2$	2. Given
3. $m\angle 2 = m\angle 3$	3. Transitive Prop.
4. $m\angle 1 = m\angle 3$ are corresponding angles	4. Definition of Corresponding <s.
5. $DE \parallel BC$	5. Converse of Corresponding <s.
6. $m\angle 2 = m\angle 4$	6. Corresponding <s are ≅
7. $m\angle 3 = m\angle 4$	7. Transitive Prop

11) Given: $\angle TQU \cong \angle T$

$\overleftrightarrow{RS} \parallel \overleftrightarrow{QT}$

Prove: $\angle S \cong \angle SRU$

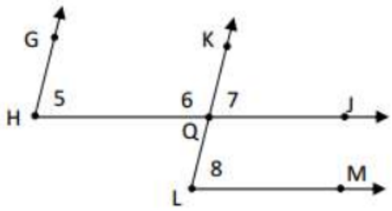


Statement	Reason
1. $\angle TQU \cong \angle T$	1.
2. $\overleftrightarrow{RS} \parallel \overleftrightarrow{QT}$	2.
3. $\angle TQU \cong \angle S$	3.
4. $\angle SRU \cong \angle T$	4.
5. $\angle TQU \cong \angle SRU$	5.
6. $\angle S \cong \angle SRU$	6.

12) Given: $\overline{HJ} \parallel \overline{LM}$

$\overline{HG} \parallel \overline{LK}$

Prove: $m\angle 5 = m\angle 8$

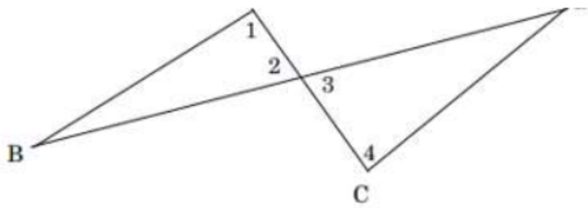


Statement	Reason
1. $\overline{HG} \parallel \overline{LK}$	1.
2. $m\angle 5 = m\angle 7$	2.
3. $\overline{HJ} \parallel \overline{LM}$	3.
4. $m\angle 7 = m\angle 8$	4.
5. $m\angle 5 = m\angle 8$	5.

13) Given: $\angle 1 \cong \angle 2$

$\angle 3 \cong \angle 4$

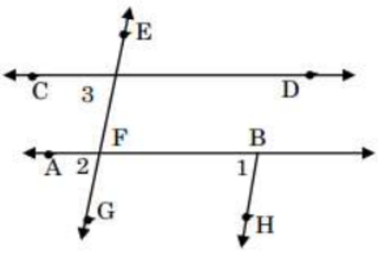
Prove: $\overline{AB} \parallel \overline{CD}$



Statement	Reason
1. $\angle 1 \cong \angle 2$	1.
2. $\angle 2 \cong \angle 3$	2.
3. $\angle 1 \cong \angle 3$	3.
4. $\angle 3 \cong \angle 4$	4.
5. $\angle 1 \cong \angle 4$	5.
6. $\overline{AB} \parallel \overline{CD}$	6.

14) Given: $\angle 3 \cong \angle 1$, $\angle 2 \cong \angle 3$

Prove: $\overleftrightarrow{EG} \parallel \overleftrightarrow{BH}$

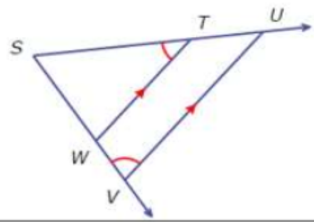


Statement	Reason
1. $\angle 3 \cong \angle 1$, $\angle 2 \cong \angle 3$	1.
2. $\angle 1 \cong \angle 2$	2.
3. $\angle 1 \cong \angle 2$ are Corresponding Angles	3.
4. $\overleftrightarrow{EG} \parallel \overleftrightarrow{BH}$	4.

15) Given: $\angle STW \cong \angle UVW$

$\overleftrightarrow{TW} \parallel \overleftrightarrow{UV}$

Prove: $\angle TUV \cong \angle UVW$



Statement	Reason
1. $\angle STW \cong \angle UVW$	1.
2. $\overleftrightarrow{TW} \parallel \overleftrightarrow{UV}$	2.
3. $\angle TUV \cong \angle STW$	3.
4. $\angle TUV \cong \angle UVW$	4.