Questions on lesson 2.4?

Look over Lesson 2.4's homework, we will be taking our content mastery quiz soon!

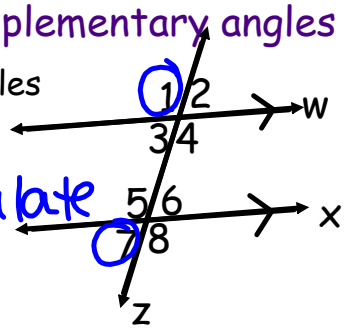
Feb 27-8:47 AM

Content Mastery Quiz #8 - Lesson 2.4

Fill in the two-column proof. **Show ALL work to receive full points**

Given: w||x, z is a transversal

Prove: ∠1 and ∠7 are supplementary angles



Statements	Reasons
w||x, z is a transversal	Given
∠1 and ∠3 are a linear pair	Definition of a linear pair
∠1 and ∠3 are supplementary	Linear Pair Postulate
$m\angle 1 + m\angle 3 = 180^\circ$	Definition of supplementary angles
$\angle 3 \cong \angle 7$	1. Corresponding ∠ Postulate
$m\angle 3 \cong m\angle 7$.	Definition of congruent angles
$m\angle 1 + m\angle 7 = 180^\circ$	2. Substitution Prop.
∠1 and ∠7 are supplementary angles	Definition of supplementary angles

If $a = b$ & $b = c$ then $a = c$

2.5 A Reversed Condition
Parallel Line Converse Theorems

PG. 185-6 IN YOUR BOOK

The **converse** of a conditional statement written in the form "If p, then q" is the statement written in the form "If q, then p." The converse is a new statement that results when the hypothesis and conclusion of the conditional statement are interchanged.

The Corresponding Angle Postulate states: "If two parallel lines are intersected by a transversal, then the corresponding angles are congruent."

P Q

The **Corresponding Angle Converse Postulate** states: "If two lines intersected by a transversal form congruent corresponding angles, then the lines are parallel."

The Corresponding Angle Converse Postulate is used to prove new conjectures formed by writing the converses of the parallel lines theorems.

1. For each theorem:
   - Identify the hypothesis p and conclusion q.
   - Write the converse of the theorem as a conjecture.

   a. Alternate Interior Angle Theorem: If two parallel lines are intersected by a transversal, then the alternate interior angles are congruent.

   P

   Hypothesis p:

   Conclusion q:

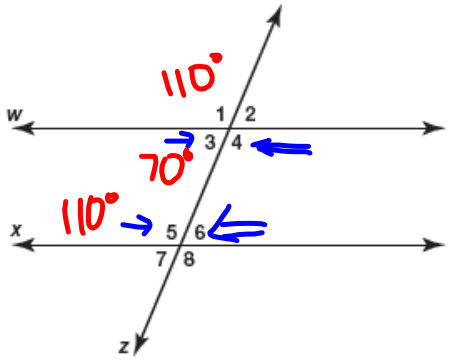
   if q then p

   Alternate Interior Angle Converse Conjecture: If two lines are intersected by a transversal and alternate interior angles are congruent, then the two lines are parallel.

SKIP #2 on pg.187

PG. 190 IN YOUR BOOK

3. The Same-Side Interior Angle Converse Conjecture states: "If two lines intersected by a transversal form supplementary same-side interior angles, then the lines are parallel."



a. Use the diagram to write the given and prove statements for the Same-Side Interior Angle Converse Conjecture.

Given: ∠3 & ∠5 are supplementary OR ∠4 & ∠6 are supplementary

Prove: w || x

b. Prove the Same-Side Interior Angle Converse Conjecture.

Statements	Reasons
1. ∠3 & ∠5 are supplementary	1. Given
2. ∠1 & ∠3 are a lineair pair	2. Definition of a linear pair
3. ∠1 & ∠3 are supplementary	3. Linear Pair Postulate
4. ∠1 ≅ ∠5	4. Angles supplementary to the same angle are congruent.
5. w || x	5. Corresponding Angle Converse Postulate

PG. 192 IN YOUR BOOK - THIS IS HELPFUL
*I ALSO RECOMMEND COMPLETING "TALK THE TALK ON PGS. 192-3 FOR HOMEWORK

Corresponding Angle Converse Postulate: If two lines intersected by a transversal form congruent corresponding angles, then the lines are parallel.

Alternate Interior Angle Converse Theorem: If two lines intersected by a transversal form congruent alternate interior angles, then the lines are parallel.

Alternate Exterior Angle Converse Theorem: If two lines intersected by a transversal form congruent alternate exterior angles, then the lines are parallel.

Same-Side Interior Angle Converse Theorem: If two lines intersected by a transversal form supplementary same-side interior angles, then the lines are parallel.

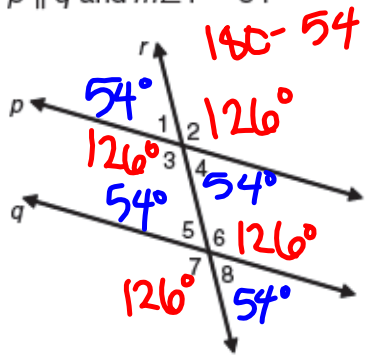
Same-Side Exterior Angle Converse Theorem: If two lines intersected by a transversal form supplementary same-side exterior angles, then the lines are parallel.

Sep 18-8:41 AM

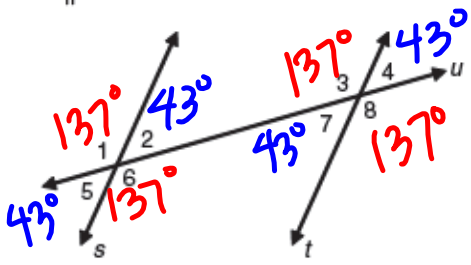
FROM LESSON 2.4 - NOT IN YOUR BOOK

1. Use the given information to determine the measures of each of the numbered angles.

a. $p \parallel q$ and $m\angle 1 = 54°$

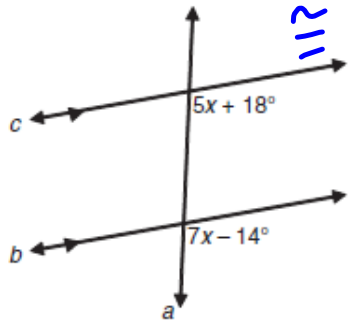


b. $s \parallel t$ and $m\angle 1 = 137°$

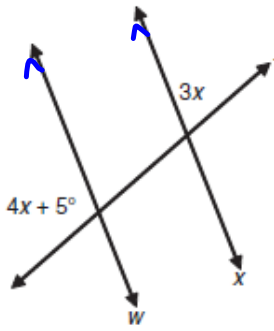


3. Solve for x in each figure.

a. $5x + 18 = 7x - 14$

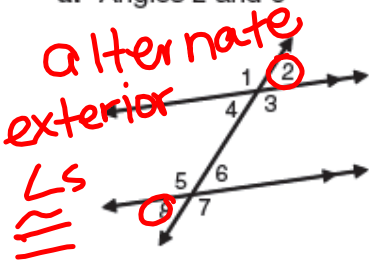


b. $4x + 5 = 3x$

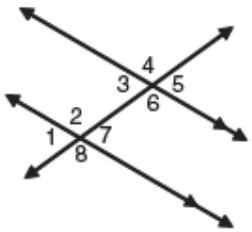


5. Determine the relationship between the indicated angles and write a postulate or theorem that justifies your answer.

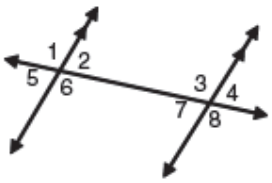
a. Angles 2 and 8



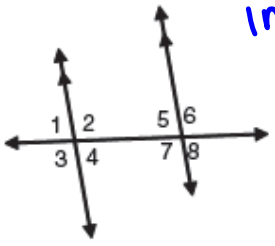
b. Angles 6 and 7



c. Angles 1 and 4

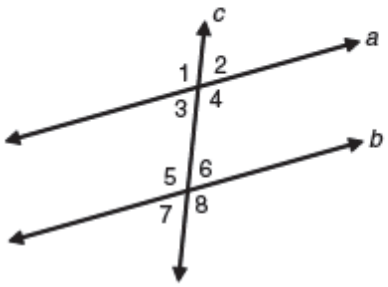


d. Angles 4 and 5



FROM LESSON 2.5 - NOT IN YOUR BOOK

1. Use the figure to write the postulate or theorem that justifies each statement.



a. $m\angle 1 = m\angle 8$, so $a \parallel b$

b. $m\angle 4 + m\angle 6 = 180°$, so $a \parallel b$

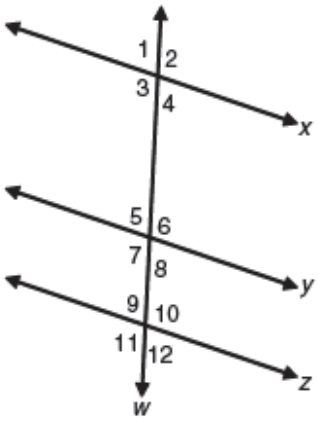
c. $a \parallel b$, so $m\angle 3 = m\angle 7$

d. $m\angle 2 + m\angle 8 = 180°$, so $a \parallel b$

e. $m\angle 4 = m\angle 5$, so $a \parallel b$

f. $a \parallel b$, so $m\angle 3 + m\angle 5 = 180°$

2. Use the given information to determine the pair of lines that are parallel. Write the postulate or theorem that justifies your answer.



a. $m\angle 4 = m\angle 5$

b. $m\angle 2 + m\angle 12 = 180°$

c. $m\angle 7 = m\angle 11$

d. $m\angle 8 + m\angle 10 = 180°$

e. $m\angle 1 + m\angle 7 = 180°$

f. $m\angle 2 = m\angle 11$

Sep 18-8:43 AM

Homework

Finish 2.5

Aug 24-2:00 PM