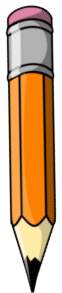


Agenda:

1. section 2-2

Today you will need:

- > a calculator
- > pencil



Housekeeping:

1. SHOW WORK on all problems (in assignments, quizzes & tests)
2. quiz tomorrow (2-1 & 2-2)
3. retest deadline: 10-6

Assignment due today:

- > 2-1 MathXL (Pearson online)



If.

An angle is 30° ,
then it is an acute $\textcircled{T}$
angle.

If an angle is acute,
then it is 30° $\textcircled{F}$
 ~~30°~~ ~~45°~~

2-2: Proving Lines are Parallel

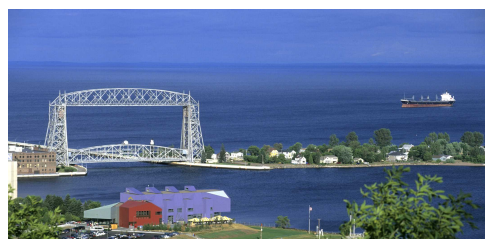
9-27

Writing the converse of a conditional statement

Conditional statement:

If , then

hypothesis (pointing to the first blank)
conclusion (pointing to the second blank)



Examples:

- If I'm in Duluth, then I'm in Minnesota.
- If I'm a sophomore, then I'm in Geometry.
- If $a \parallel b$, then Corresponding Angles are $\cong$.

Converse: Switch the "if" and "then" parts around.

Using the examples from above:

• If I'm in Minnesota, then I'm in Duluth.

→ ♥ If I'm in Geometry then I'm a sophomore.

→ ♦ If corresponding angles are $\cong$, then $a \parallel b$.

Is the converse of each true?

Counter Example:

An example that shows a statement to be false.

- I'm in Champlin but also in MN.
- Brandon is a freshmen in Geometry.

X true

From Section 2-1:

If $a \parallel b$, then... CA are $\cong$ congruent
AIA are congruent
AEA are congruent
SSIA are supplementary

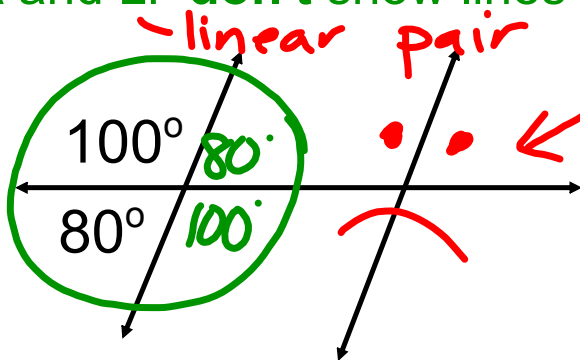
To Prove Lines are Parallel, use the Converses:

If CA are congruent, then the lines are $\parallel$.

If AIA are congruent, then the lines are $\parallel$.
If AEA are congruent, then the lines are parallel.

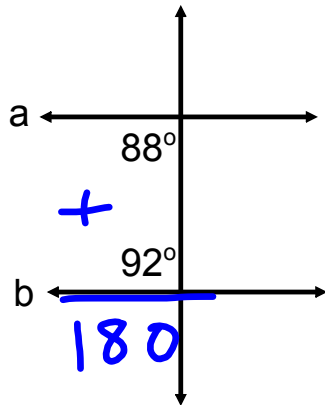
If SSIA are supplementary, the lines are parallel.

vertical $\angle$
VA and LP don't show lines are parallel...

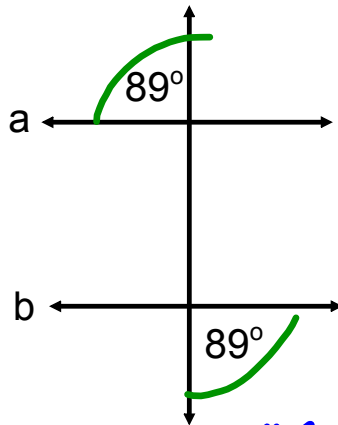


there is no
information
on the 2nd line

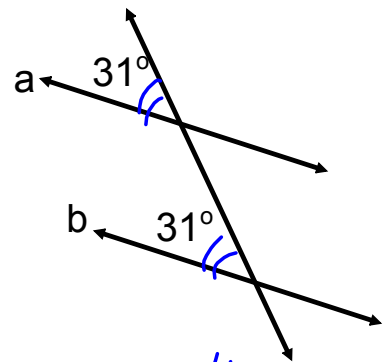
Is $a \parallel b$? Explain.



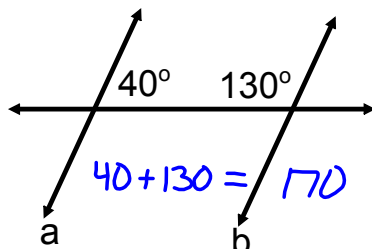
Yes, $a \parallel b$
 Sentence structure:
 The SSI angles are
supp., so the lines are
parallel.



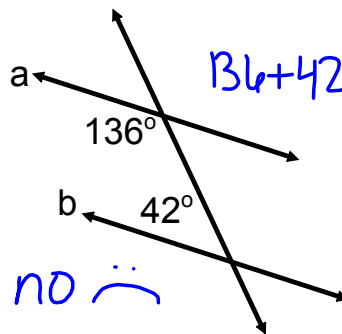
yes $a \parallel b$
 Sentence structure:
 The alt. ext. angles are
 $\cong$, so the lines are
parallel.



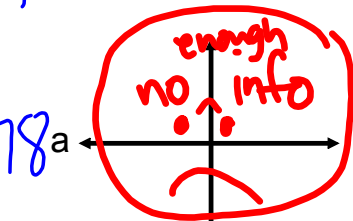
yes $a \parallel b$
 Sentence structure:
 The corresponding angles are
 $\cong$, so the lines are
parallel.



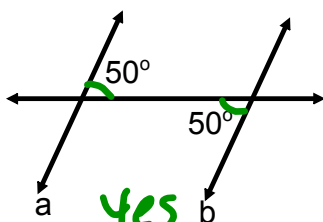
no!
 Sentence structure:
 The SSI angles are
not supp., so the lines are
not parallel



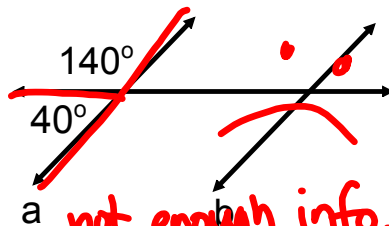
no
 Sentence structure:
 The SSI angles are
not supplem., so the lines are
not parallel



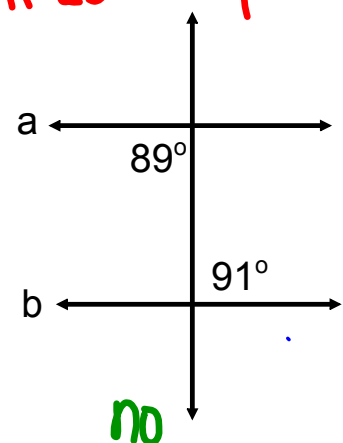
vertical angles
 don't tell if
 lines are parallel



yes
 Sentence structure:
 The AIA angles are
congruent, so the lines are
parallel

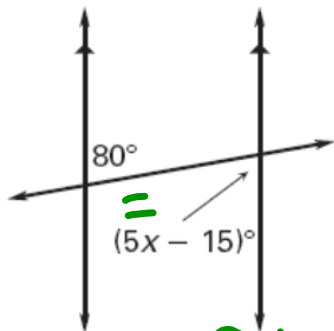


not enough info.
 Sentence structure:
 The linear pairs angles are
not $\cong$, so the lines are
not parallel

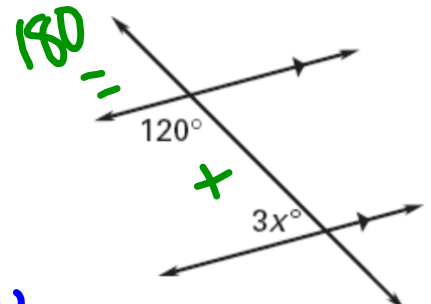
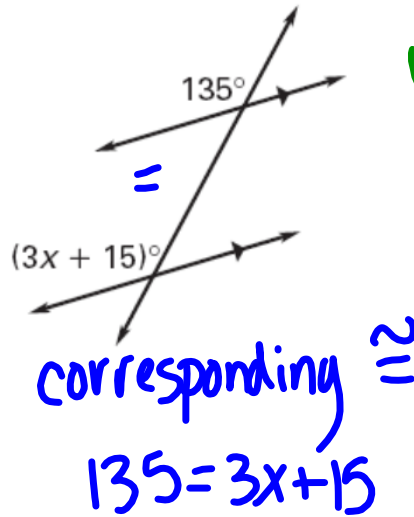


no
 Sentence structure:
 The AIA angles are
not $\cong$, so the lines are
not parallel

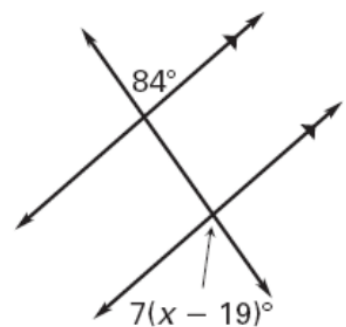
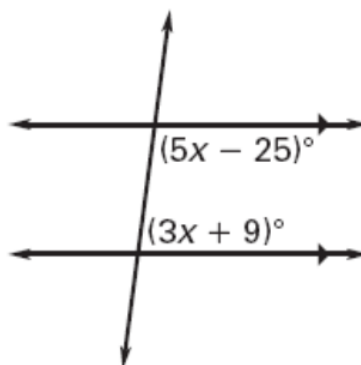
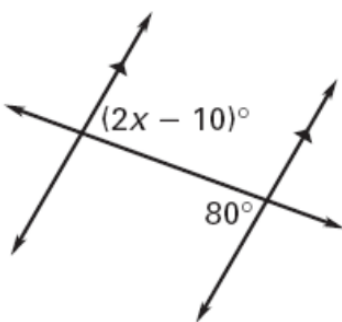
Find the value of x so that the 2 lines are parallel.



$80 = 5x - 15$
 $\vdots$
 Solve



$180 =$
 $120 + 3x = 180$
 $\vdots$
Same side
interior
supplementary



Assignment: green WS
(due Friday)

- (and 2-1 Practice & Problem Solving)

- yellow WS due tomorrow

practice + quiz tomorrow