

Bell Work

Student Journal p. 74 1-4

Proofs with Parallel Lines

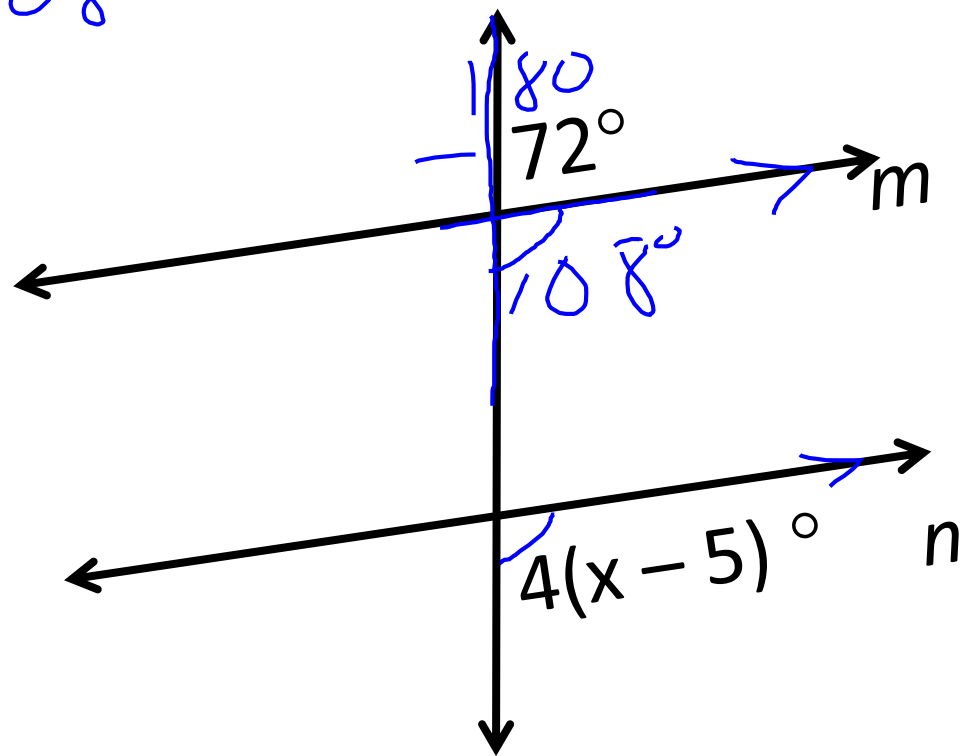
Lesson 3.3

Converses of the // lines theorems

- Corresponding angles \cong $CA \cong$ *Converse of CA*
- Alternate Interior angles \cong $AIA \cong$
- Alternate Exterior angles \cong $AEA \cong$
- Consecutive Interior angles are supplementary. *CIA suppl.*

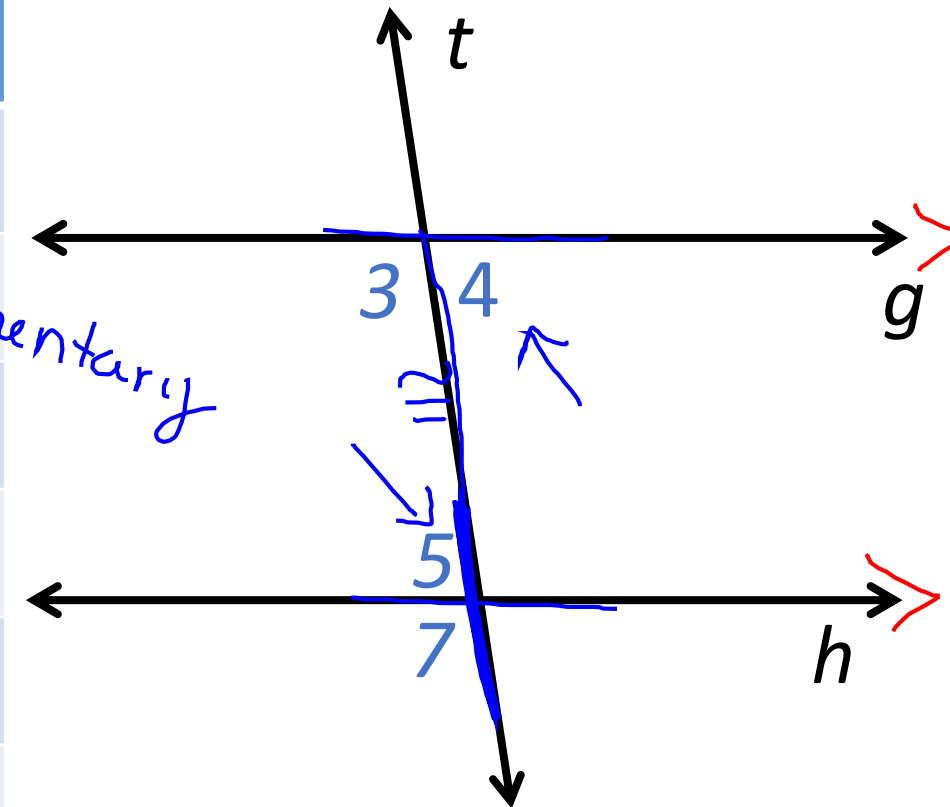
Find the value of x that makes $m \parallel n$.

$$4(x-5) = 108^\circ$$



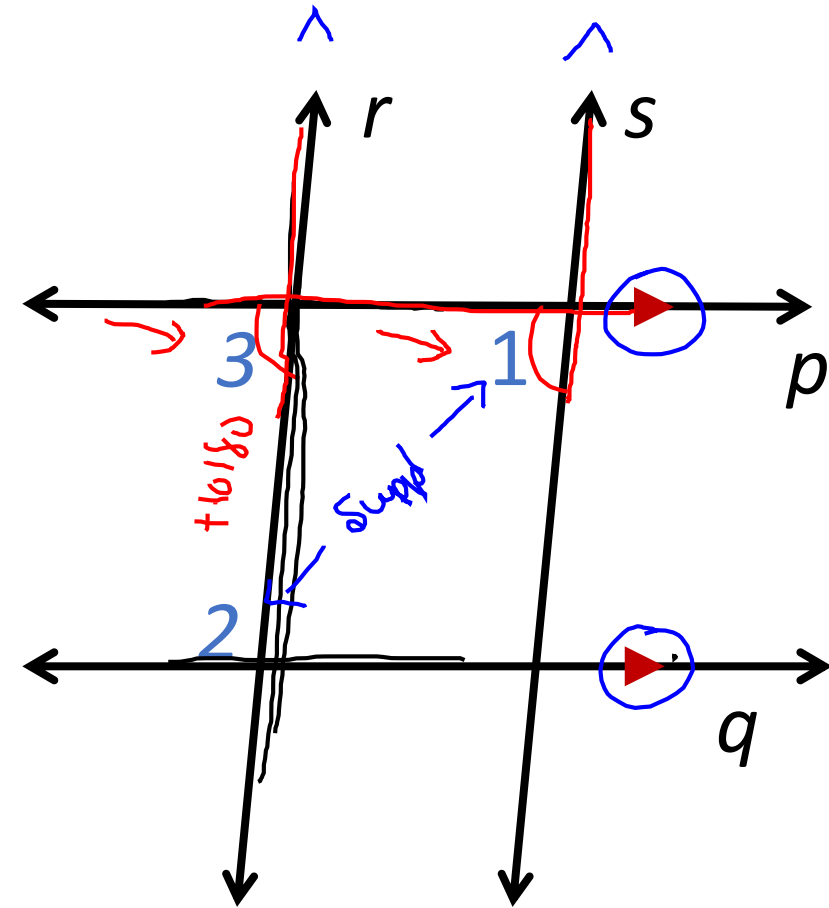
Prove the Alternate Interior Angles Converse without using the Vertical Angles Theorem.

Statements	Reasons
1. $\angle 4 \cong \angle 5$	1. given
2) $m\angle 5 + m\angle 7 = 180$ $m\angle 3 + m\angle 4 = 180$	2) linear pairs supplementary
3) $m\angle 5 + m\angle 7 = m\angle 3 + m\angle 4$	3) subst
4) $m\angle 4 + m\angle 7 = m\angle 3 + m\angle 4$	4) subst. "
5) $\angle 3 \cong \angle 7$	5) subtraction
$g \parallel h$	Converse of CA thm



In the diagram, $p \parallel q$ and $\angle 1$ is supplementary to $\angle 2$. Prove $r \parallel s$.

Statements	Reasons
1. $p \parallel q$, $\angle 1$ and $\angle 2$ are supplementary	1. given
2) $m\angle 1 + m\angle 2 = 180$	2) def of Suppl.
3) $m\angle 2 + m\angle 3 = 180$	3) CIA Suppl
4) $m\angle 1 + \frac{m\angle 2}{-m\angle 2} = \frac{m\angle 2 + m\angle 3}{-m\angle 2}$	4) subst.
5) $m\angle 1 \cong m\angle 3$	5) subst.
6) $r \parallel s$	6) converse of CIA



Each parking space in a lot is defined by two parallel lines and shares a common line with the next adjacent space. Explain why the left line in space 02 is parallel to the right line in space 08.



In class Lesson 3.3 p. 142: 1, 2-8 even, 12 – 30 even, 33, 35, 41-44 – due **Monday**

Homework – the **distance from a point to a line** on p. 148 into your notes. Also add the following theorems:

Linear Pair Perpendicular (p. 150)

Perpendicular Transversal (p. 150)

Lines Perpendicular to a Transversal (p. 150)

Notes Due 10-22