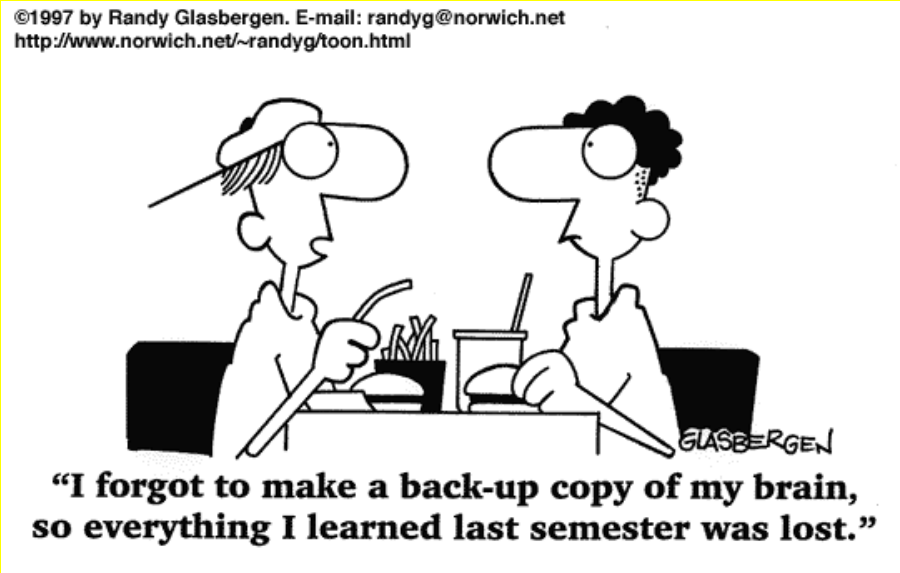
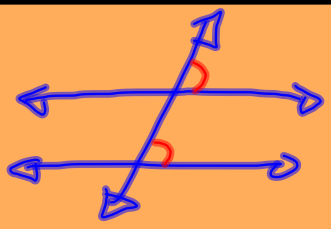
3-3
Proving Lines Parallel



Postulate 15 and Thm 3.1 - 3.3 are used when given ll lines to prove <'s or supplementary.

Use the following to prove lines ll:



Post 16 Corr <'s Converse

Corr. <'s ll lines

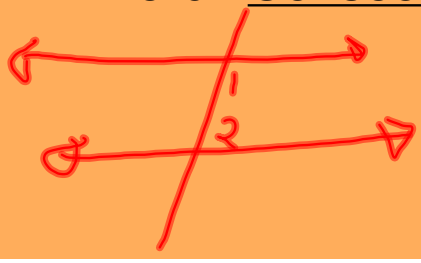
Thm 3-4 Alt Int < Converse

alt int <'s ll lines

Thm 3-5 Alt Ext < Converse

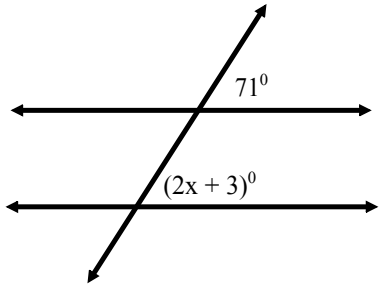
alt ext <'s ll lines

Thm 3-6 Consecutive Int < Converse



cons int <'s Supp ll lines

Find the value of x that makes m ∥ n.



$2x + 3 = 71$

$-3 \quad -3$

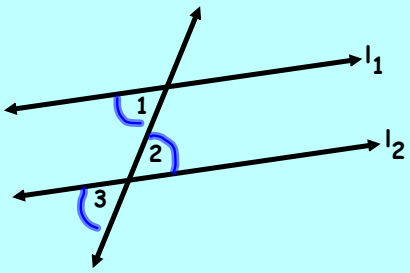
$\frac{2x}{2} = \frac{68}{2}$

$x = 34$

Proof of Alt Int <'s Converse

Given: <1 <2

Prove: $l_1 \parallel l_2$



1. <1 <2	1. Given
2. <2 <3	2 Vertical Angle Theorem
3. <1 <3	3.Transitive Property
4. $l_1 \parallel l_2$	4. Corresponding <'s Converse

Given

Ruler Postulate

Segment Addition Postulate

Protractor Postulate

Angle Addition Postulate

Reflexive Property

Symmetric Property

Transitive Property

Substitution Property

Vertical Angle Theorem

Linear Pair Postulate

Supplementary Angles

Complementary Angles

Congruent Supplement Theorem

Congruent Complements Theorm

If 2 lines 4 rt. ,'s

All right <'s are

2 lines intersect to form a pair of adjacent <'s, the lines are .

Corresponding <'s Post.

Alternate Interior <'s Thm.

Consecutive Interior Angles Thm.

Alternate Exterior Angles Thm.

Perpendicular Transversal Thm.

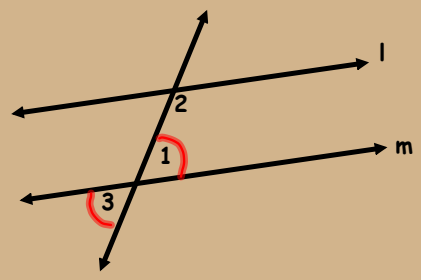
Corresponding <'s Converse

Alt Int <'s Converse

Consecutive Interior <'s Converse

Alternate Exterior <'s Converse

Given: <3 is supp to <2
Prove: l ll m



1. <3 is supp to <2	1. Given
2. <3 ≅ <1	2. Vertical Angle Theorem
3. <1 is supp to <2	3. Substitution Property
4. l ll m	4. Consecutive Interior <'s Converse

Given
Ruler Postulate
Segment Addition Postulate
Protractor Postulate
Angle Addition Postulate
Reflexive Property
Symmetric Property
Transitive Property
Substitution Property
Vertical Angle Theorem
Linear Pair Postulate
Supplementary Angles
Complementary Angles
Congruent Supplement Theorem
Congruent Complements Theorm
If 2 lines 4 rt. ,'s
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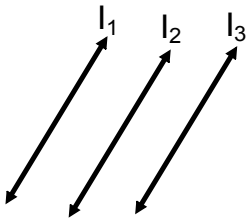
Corresponding <'s Post.
Alternate Interior <'s Thm.
Consecutive Interior Angles Thm.
Alternate Exterior Angles Thm.
Perpendicular Transversal Thm.
Corresponding <'s Converse
Alt Int <'s Converse
Consecutive Interior <'s Converse
Alternate Exterior <'s Converse

Thm 3-1 Transitivity or Parallel Lines

If 2 lines are parallel to the same line, then they are parallel to each other.



$l_1 \parallel l_2 \parallel l_3$

Homework:

p. 165-169/1, 3-8, 10-15, 19-21