

Proof Mini-Quiz Review of Mistakes

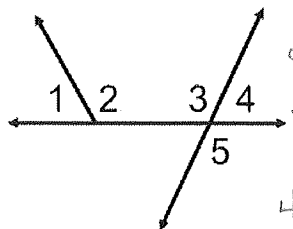
Directions: Find the mistakes in the given proofs. Use a RED pen and neat handwriting to explain the mistakes:

1. Given: $\angle 1 \cong \angle 4$

a.

b.

Prove: $\angle 2 \cong \angle 5$



1. $\angle 1 \cong \angle 4$
2. $\angle 2 \cong \angle 5$
3. $\angle 3 \cong \angle 5$
4. $\angle 2 \cong \angle 5$

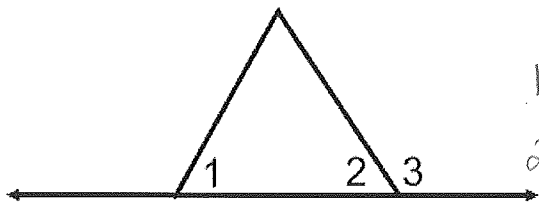
1. given
2. con int \angle s
3. def of Vertical \angle s
4. alt. con \angle s are \cong

1. $\angle 1 \cong \angle 4$
2. $\angle 1 + \angle 2 = 180$
 $\angle 4 + \angle 5 = 180$
3. $\angle 1 + \angle 2 = \angle 4 + \angle 5$
4. $\angle 2 \cong \angle 5$

1. given
2. def of Suppl
3. Substitution
4. substitution

2. Given: $\angle 1 \cong \angle 2$

Prove: $\angle 1 + \angle 3 = 180$

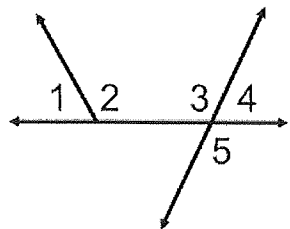


1. $\angle 1 \cong \angle 2$
2. $\angle 1 + \angle 2 = 180$
3. $\angle 2 \cong \angle 3$
4. $\angle 1 + \angle 3 = 180$

1. given
2. con. int \angle s are suppl.
3. substitution
4. substitution

3. Given: $\angle 1$ and $\angle 3$ are supplementary

Prove: $\angle 2 \cong \angle 5$



1. $\angle 1$ and $\angle 3$ are suppl.
2. $\angle 3 \cong \angle 5$
3. $\angle 1 + \angle 5 = 180$
4. $\angle 1 + \angle 2 = 180$
5. $\angle 1 + \angle 5 = \angle 1 + \angle 2$
6. $\angle 5 \cong \angle 2$

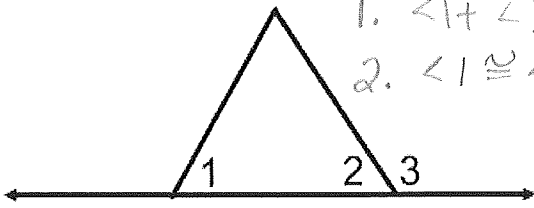
1. given
2. Vertical \angle s are \cong
3. substitution
4. def of Linear Pairs
5. substitution
6. Substitution

4. Given: $\angle 1 + \angle 3 = 180$

a.

b.

Prove: $\angle 1 \cong \angle 2$



1. $\angle 1 + \angle 3 = 180$
2. $\angle 1 \cong \angle 2$

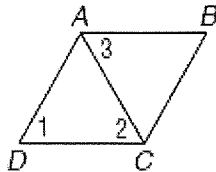
1. given
2. alt. int \angle are \cong

1. $\angle 1 + \angle 3 = 180$
2. $\angle 2 + \angle 3 = 180$
3. $\angle 1 + \angle 2 = \angle 2 + \angle 3$
 $\angle 1 \cong \angle 2$

given
linear pairs
are suppl
Substitution
congruent

5. Given: $\angle 1 \cong \angle 2, \angle 1 \cong \angle 3$

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



1. $\angle 1 \cong \angle 2, \angle 1 \cong \angle 3$
2. $\angle 2 \cong \angle 3$
3. $\overline{AB} \parallel \overline{DC}$

1. given
2. alt. int \angle s are \cong
3. substitution

6. X is the midpoint of \overline{WY} .

$WX + YZ = XZ$



1. X is the midpoint of \overline{WY}

2. $WX \cong XY$

3. $XY + YZ = XZ$

4. $WX + YZ = XZ$

1. X is the midpt of WY

2. Definition of Midpoint

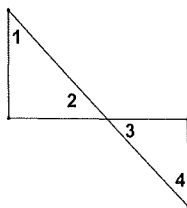
3. substitution

4. Substitution

7. Given: $\angle 1$ and $\angle 2$ are complements

$\angle 3$ and $\angle 4$ are complements

Prove: $\angle 1 \cong \angle 4$

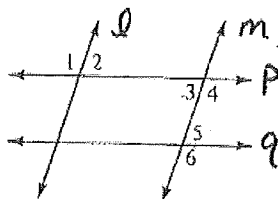


Statements	Reasons
1. $\angle 1$ and $\angle 2$ are complements $\angle 3$ and $\angle 4$ are complements	1. Given
2. $\angle 1 + \angle 2 = 90$, $\angle 3 + \angle 4 = 90$	2. angle addition
3. $\angle 2 \cong \angle 3$	3. def of vertical \angle s
4. $\angle 1 + \angle 2 = \angle 3 + \angle 4$	4. substitution
5. $\angle 1 + \angle 2 = \angle 2 + \angle 4$	5. Plug in
6. $\angle 1 \cong \angle 4$	6. Proved

8. Given: $\angle 4$ and $\angle 5$ are supplements.

$\angle 2 = \angle 3$

Prove: $\angle 2 = \angle 5$



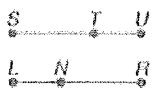
Statements	Reasons
1. $\angle 4$ and $\angle 5$ are suppl. $\angle 2 = \angle 3$	1. Given
2. $\angle 4 + \angle 5 = 180^\circ$	2. Supplementary consecutive interior angles form parallel lines
3. $\angle 2 \cong \angle 3$	3. Congruent alternate interior angles form parallel lines
4. $\angle 3 \cong \angle 5$	4. substitution
5. $\angle 2 = \angle 5$	5. Substitution

9. Given: $\overline{AB} \cong \overline{DE}$; $\overline{BC} \cong \overline{EF}$
 Prove: $\overline{AC} \cong \overline{DF}$



Statements	Reasons
1. $\overline{AB} \cong \overline{DE}$	1. Given
2. $AC = AB + BC$ $DF = DE + EF$	2. angle addition
3. $DF = AB + BC$	3. Substitution
4. $\overline{AC} \cong \overline{DF}$	4. Subtraction

10. Given: $\overline{SU} \cong \overline{LR}$
 $\overline{TU} \cong \overline{LN}$
 Prove: $\overline{ST} \cong \overline{NR}$



Statements	Reasons
1. $\overline{SU} \cong \overline{LR}$, $\overline{TU} = \overline{LN}$	1. Given
2. $SU = ST + TU$ $LR = LN + NR$	2. Segment Addition (You should have 2 statements for this step)
3. $ST + TU = LN + NR$	3. Substitution
4. ?	4. ? def of midpt
5. $ST = NR$	5. Subtraction

Key

1 a. *no // lines
*no def of
Vertical
* Hotmess!

1 b. - def of suppl.
- need
 $\angle 1 + \angle 2 = \angle 4 + \angle 5$
- subtract

2. no // lines, $\angle 2 \neq \angle 3$

3. need def of suppl., def of L.P., need subtraction

4 a.) - no // lines 4 b.) - no corresponding #s for reason
congruent is NOT an example of
a Reason.

5.) - no // lines
- substitution
does not prove //

6. given, points can not be ≅

7. def of compl \neq angle addition / def of Vertical not justify
Plug in & proved are not reasons

8. Form // lines must show $p // q$ and $l // m$
 $\angle = \cong$ at int \angle s after you have shown // lines

9. missing 2nd given, \angle s are not here, substitution not
subtraction