

Name: _____

Date: _____

CC Geometry Honors

Pre Proof Properties/Axioms of Equality Practice

Questions 1 – 6: State the postulate that is demonstrated

1. $DF = GH$, therefore $GH = DF$

2. $\overline{AB} \cong \overline{AB}$

3. $\angle P \cong \angle Q$ and $\angle P \cong \angle R$, therefore $\angle Q \cong \angle R$

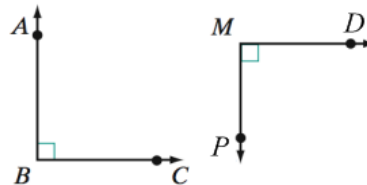
4. $m\angle 1 = 90^\circ$ and $m\angle 2 = 90^\circ$, therefore $m\angle 1 = m\angle 2$

5. If $DE + EF = DF$, then $DF = DE + EF$

6. $m\angle RST = m\angle RST$

7. Given: $\overline{AB} \perp \overline{BC}$ and $\overline{PM} \perp \overline{MD}$

Prove: $m\angle ABC = m\angle PMD$



Statements

1. $\overline{AB} \perp \overline{BC}$ and $\overline{PM} \perp \overline{MD}$

2. $\angle ABC$ and $\angle PMD$ are right angles

3. $m\angle ABC = 90$ and $m\angle PMD = 90$

4. $90 = m\angle PMD$

5. $m\angle ABC = m\angle PMD$

Reasons

1. _____

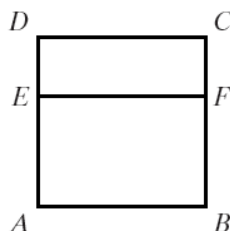
2. _____

3. _____

4. _____

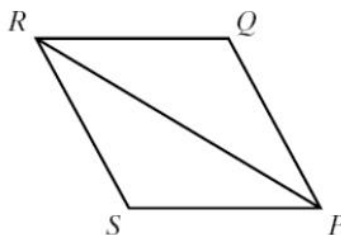
5. _____

8. Given: \overline{AED} and \overline{BFC} , $AE = BF$, and $ED = FC$
 Prove: $AD = BC$



Statements	Reasons
1. \overline{AED} and \overline{BFC}	1. Given.
2. $AE + ED = AD$ $BF + FC = BC$	2. Partition postulate.
3. $AE = BF$ and $ED = FC$	3. Given.
4. $AE + ED = BF + FC$	4. Addition Postulate
5. $AD = BC$	5. Transitive property (steps 2, 4).

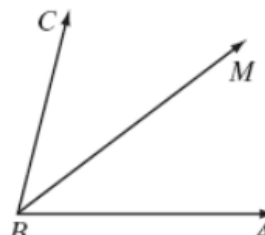
9. Given: $\angle SPR \cong \angle QRP$ and $\angle RPQ \cong \angle PRS$
 Prove: $\angle SPQ \cong \angle QRS$



Statements	Reasons
1. $\angle SPR \cong \angle QRP$ and $\angle RPQ \cong \angle PRS$	1. Given.
2. $\angle SPR + \angle RPQ$ $= \angle QRP + \angle PRS$	2. Addition postulate.
3. $\angle SPR + \angle RPQ \cong \angle SPQ$	3. Partition postulate.
4. $\angle QRP + \angle PRS \cong \angle QRS$	4. Partition postulate.
5. $\angle SPQ \cong \angle QRS$	5. Substitution postulate.

10. Given: $m\angle ABM = \frac{1}{2}m\angle ABC$, $m\angle ABC = 2m\angle MBC$

Prove: \overrightarrow{BM} bisects $\angle ABC$.



Statements	Reasons
1. $m\angle ABM = \frac{1}{2}m\angle ABC$	1. Given.
2. $m\angle ABC = 2m\angle MBC$	2. Given.
3. $\frac{1}{2}m\angle ABC = m\angle MBC$	3.
4.	4. Transitive property
5. $\angle ABM \cong \angle MBC$	5.
6. \overrightarrow{BM} bisects $\angle ABC$	6.

11. Given: $AB = CD$, $RS = 3AB$, $LM = 3CD$

Prove: $RS = LM$

Statements	Reasons
1. $AB = CD$	1. Given.
2. $3AB = 3CD$	2.
3. $RS = 3AB$	3. Given.
4. $RS = 3CD$	4.
5. $LM = 3CD$	5. Given.
6. $RS = LM$	6.