Name_____ **Geometry** **2-5 Reasoning and Proofs Quiz Review**

Name the property of equality or congruence that justifies going from the first statement to the second statement.

1. $\overline{PQ} \cong \overline{MN}$
   $\overline{MN} \cong \overline{PQ}$

2. $6x + 2 = 12$
   $6x = 10$

3. $\angle YER \cong \angle IOP$ and $\angle IOP \cong \angle WXZ$
   $\angle YER \cong \angle WXZ$

4. $5(y - x) = 20$
   $5y - 5x = 20$

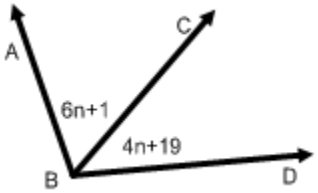
5. $CD = AF - 2CD$
   $3CD = AF$

6. $m\angle Q - m\angle R = 90$ and $m\angle Q = 4m\angle R$
   $4m\angle R - m\angle R = 90$

7. $m\angle 1 + m\angle 2 = 90$
   $m\angle 1 = 90 - m\angle 2$

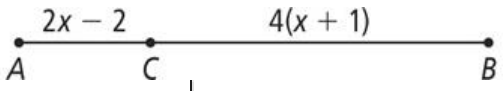
Complete each proof.

8. **Given:** $\overrightarrow{BC}$ bisects $\angle ABD$
   Prove: $n = 9$



Statements	Reasons
1.) $\overrightarrow{BC}$ bisects $\angle ABD$	1.) Given
2.) $\angle ABC \cong \angle CBD$	2.)
3.) $m\angle ABC = m\angle CBD$	3.)
4.) $6n + 1 = 4n + 19$	4.)
5.) $2n + 1 = 19$	5.)
6.) $2n = 18$	6.)
7.) $n = 9$	7.)

9. **Given:** $AB = 62$
   Prove: $x = 10$



Statements	Reasons
1.)	1.) Given
2.) $AC + CB = AB$	2.)
3.) $2x - 2 + 4(x+1) = 62$	3.)
4.) $2x - 2 + 4x + 4 = 62$	4.)
5.)	5.) Combine like terms
6.)	6.) Subtraction POE
7.)	7.) Div. Prop. Of eq.