

Honors Geometry Chapter 2 Reasons Test Review

Use when you get it right all by yourself  
**S** Use when you did it all by yourself, but made a silly mistake  
**H** Use when you could do it alone with a little help from teacher or peer  
**G** Use when you completed the problem in a group  
**X** Use when a question was attempted but wrong (get help)  
**N** Use when a question was not even attempted

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Given			22, 23
If $\cong$ , then =. Or If =, then $\cong$ .			23
Reflexive POE/POC	1, 6, 8	24, 30	
Transitive POE/POC	2, 4, 15,	26, 32, 35	
Symmetric POE/POC	3, 11	25, 31	
Substitution POE	7, 13, 17, 18, 21	29, 36	23
Multiplication/Division POE/POC	10, 12, 19	28, 33, 34	22
Addition/Subtraction POE/POC	5, 9, 14, 16	27	22, 23
Distribution Property	20		22
Def. of linear pair			23

Identify the property that justifies each statement.

1.  $AB = AB$  Reflexive POE

2. If  $m\angle 1 = m\angle 2$ ,  $m\angle 2 = m\angle 4$ , then  $m\angle 1 = m\angle 4$ . Transitive POE

3. If  $x = y$ , then  $y = x$ . Symmetric POE

4. If  $ST = YZ$ , &  $YZ = PR$ , then  $ST = PR$ . Transitive POE

5. If  $\overline{KL} \cong \overline{PR}$ , then  $\overline{KL} - \overline{AB} \cong \overline{PR} - \overline{AB}$ . Subtraction POE

6.  $412 = 412$  Reflexive POE

7. If  $b = a$  &  $b = 0$ , then  $a = 0$ . Substitution POE

8. Figure A = Figure A Reflexive POE

9. If  $m\angle DEF = m\angle ABC$ , then  $m\angle DEF + m\angle GHI = m\angle ABC + m\angle GHI$ . Add. POE

10. If  $x = y$ , then  $\frac{x}{3} = \frac{y}{3}$ . Division POE

11. If  $AB = CD$ , then  $CD = AB$ . Symmetric POE

12. If  $\frac{x}{2} = 7$ , then  $x = 14$ . Multiplication POE

13. If  $x = 5$  and  $b = 5$ , then  $x = b$ . Substitution POE

14. If  $XY - AB = WZ - AB$ , then  $XY = WZ$ . Add POE

15. If  $m\angle A = m\angle B$  &  $m\angle B = m\angle C$ , then  $m\angle A = m\angle C$ . Transitive POE

16. If  $HJ + 5 = 20$ , then  $HJ = 15$ . Subtraction POE

17. If  $XY + 20 = YW$  &  $XY + 20 = DT$ , then  $YW = DT$ . Substitution POE

18. If  $m\angle 1 + m\angle 2 = 90^\circ$  &  $m\angle 2 = m\angle 3$ , then  $m\angle 1 + m\angle 3 = 90^\circ$  Substitution POE

19. If  $\frac{1}{2}AB = \frac{1}{2}EF$ , then  $AB = EF$ . Multiplication POE

20. If  $2(x - \frac{3}{2}) = 5$ , then  $2x - 3 = 5$ . Distributive Property

21. If  $m\angle 4 = 35^\circ$  &  $m\angle 5 = 35^\circ$ , then  $m\angle 4 = m\angle 5$ . Substitution POE

Create a two-column proof for the information given below. Justify each step/statement with a proper reason.

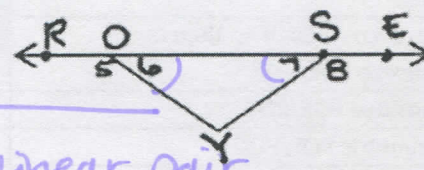
22. If  $14(x+1) = -7(4+x)$ , then  $x = -2$ .

Statements	Reasons
1. $14(x+1) = -7(x+4)$	1. given
2. $14x+14 = -7x-28$	2. Distributive Property
3. $21x+14 = -28$	3. Add. POE
4. $21x = -42$	4. Subtraction POE
$\therefore$ 5. $x = -2$	5. Division POE

23. Given: in the diagram provided  $\angle 6 \cong \angle 7$

Prove:  $\angle 5 \cong \angle 8$

Statements	Reasons
1. $\angle 6 \cong \angle 7$	1. given
2. $m\angle 5 + m\angle 6 = 180^\circ$ $m\angle 7 + m\angle 8 = 180^\circ$	2. Def of linear pair
3. $m\angle 5 + m\angle 6 = m\angle 7 + m\angle 8$	3. Substitution POE
4. $m\angle 6 = m\angle 7$	4. If $\cong \Rightarrow =$
5. $m\angle 5 + m\angle 7 = m\angle 7 + m\angle 8$	5. Substitution POE
6. $m\angle 5 = m\angle 8$	6. Subtraction POE
7. $\angle 5 \cong \angle 8$	7. If $= \Rightarrow \cong$



Use the property to complete the statement given.

- Reflexive Property:  $\underline{SE} = SE$
- Symmetric Property: If  $m\angle JKL = m\angle RST$ , then  $m\angle RST = m\angle JKL$ .
- Transitive Property: If  $m\angle F = m\angle J$  and  $m\angle J \cong m\angle L$ , then  $m\angle F = m\angle L$ .
- Addition Property: If  $RS = TU$ , then  $RS + 20 = \underline{TU + 20}$ .
- Multiplication Property:  $m\angle 1 = m\angle 2$ , then  $3(m\angle 1) = \underline{3(m\angle 2)}$ .
- Substitution Property: If  $a = 20$ , then  $5a = \underline{5(20)/100}$ .
- Reflexive Property: If  $x$  is a real number, then  $x = \underline{a \text{ real } \#}$ .
- Symmetric Property: If  $AB = CD$ , then  $CD = \underline{AB}$ .
- Transitive Property: If  $m\angle E = m\angle F$  &  $m\angle F = m\angle G$ , then  $\underline{m\angle E = m\angle G}$ .
- Multiplication Property: If  $RS = TU$ , then  $x(RS) = \underline{x(TU)}$ .
- Division Property: If  $3(m\angle 1) = 3(m\angle 2)$ , then  $m\angle 1 = \underline{m\angle 2}$ .
- Transitive Property: If  $a = bc$  &  $bc = de$ , then  $\underline{a = de}$ .
- Substitution Property: If  $x = 3c$  &  $r = 5x + 7$ , then  $\underline{r = 5(3c) + 7}$ .

**CYU Reflection:** How far can you go: basic, intermediate, or advanced?

Rate your mastery level!

How confident are you with the skills this CYU covered? Circle the score you would give yourself.

