

Geometry: Review 2.5-2.7

Name _____

Complete the logical argument by giving a reason for each step.

- | | |
|--|---|
| 1. $8x - 34 = 6$
$8x = 40$

$x = 5$ | Given
a. _____

b. _____ |
| 2. $5(x - 3) = 4(x + 2)$
$5x - 15 = 4x + 8$

$x - 15 = 8$

$x = 23$ | Given
a. _____

b. _____

c. _____ |

Solve the equation. Write a reason for each step.

3. $x + 18 = 7$

4. $7x - 9 = 4x$

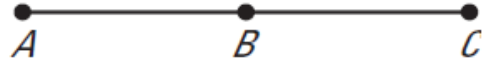
5. $7x - 11 = 4x + 19$

6. $4(2x + 11) = 76$

Use the property to complete the statement.

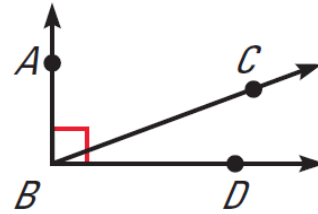
7. Addition Property of Equality: if $RS = TU$, then $RS + 20 =$ _____.
8. Multiplication Property of Equality: If $m\angle 1 = m\angle 2$, then $3m\angle 1 =$ _____.
9. Substitution Property of Equality: If $a = 20$, then $5a =$ _____.
10. Reflexive Property of Equality: If x is a real number, then $x =$ _____.
11. Symmetric Property of Equality: If $AB = CD$, then $CD =$ _____.
12. Transitive Property of Equality: If $m\angle E = m\angle F$ and $m\angle F = m\angle G$, then _____.

13. **GIVEN:** $2AB = AC$
PROVE: $AB = BC$



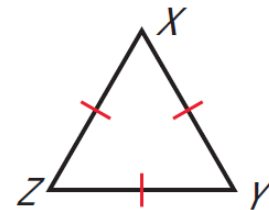
Statements	Reasons
1.	1.
2.	2. SAP
3. $2AB = AB + BC$	3.
4. $AB = BC$	4.

14. **GIVEN:** $\angle ABD$ is a right angle.
PROVE: $\angle ABC$ and $\angle CBD$ are complementary.



Statements	Reasons
1.	1.
2. $m\angle ABD = 90^\circ$	2.
3.	3. AAP
4. $90^\circ = m\angle ABC + m\angle CBD$	4.
5. $\angle ABC$ and $\angle CBD$ are complimentary	5.

15. **GIVEN:** $\overline{XY} \cong \overline{YZ} \cong \overline{ZX}$
PROVE: The perimeter of $\triangle XYZ$ is $3 \cdot XY$



Statements	Reasons
1.	1.
2.	2. Definition of congruent segments
3. Perimeter of $\triangle XYZ = XY + YZ + ZX$	3. Definition of Perimeter
4.	4. Substitution PO=
5. The perimeter of $\triangle XYZ$ is $3 \cdot XY$	5.

Use the property to complete the statement.

16. Reflexive Property of Congruence: _____ $\cong \angle 4$

17. Symmetric Property of Congruence: If _____ \cong _____, then $\overline{CD} \cong \overline{DX}$.

Name the property illustrated by the statement.

18. If $\angle 1 \cong \angle 2$ and $\angle 2 \cong \angle 4$, then $\angle 1 \cong \angle 4$.

19. $\overline{XY} \cong \overline{XY}$

20. If $\angle CDE \cong \angle RST$, then $\angle RST \cong \angle CDE$.

21. If $\overline{AB} \cong \overline{BC}$, then $\overline{BC} \cong \overline{AB}$

Use the figure and given information to determine the unknown angle measures.

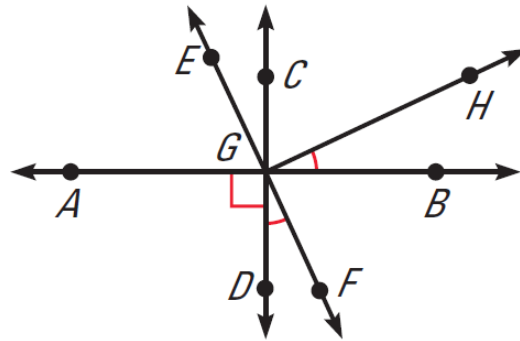
22. If $m\angle CGF = 158^\circ$, then $m\angle EGD =$ _____

23. If $m\angle EGA = 67^\circ$, then $m\angle FGD =$ _____

24. If $m\angle FGC = 149^\circ$, then $m\angle EGA =$ _____

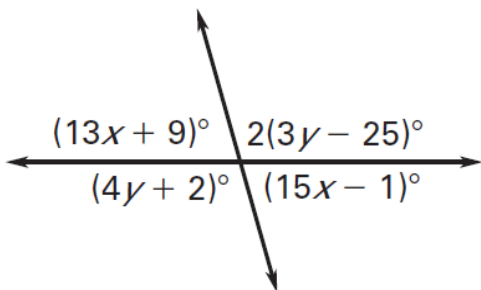
25. $m\angle DGB =$ _____

26. $m\angle FGH =$ _____



Find the value of the variables and the measure of each angle in the diagram.

27.



28.

