

2-7 Worksheet**Multiple Choice**

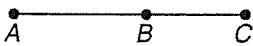
Identify the choice that best completes the statement or answers the question.

- _____ 1. If A , B , and N are collinear and $AB + BN = AN$, which point is between the other two points?
a. A c. N
b. B d. cannot tell
- _____ 2. Choose the property that justifies the statement *If $\overline{GH} \cong \overline{FD}$, then $\overline{FD} \cong \overline{GH}$.*
a. Reflexive c. Transitive
b. Symmetric d. Definition of congruent segments
- _____ 3. Choose the property that justifies the statement.
If $\overline{GH} \cong \overline{FD}$ and $\overline{FD} \cong \overline{CB}$, then $\overline{GH} \cong \overline{CB}$.
a. Reflexive c. Transitive
b. Symmetric d. Def. of \cong segments
- _____ 4. If $XY = 6$, $YZ = 8$, and $XZ = 2$, which point is between the other two?
a. X c. Z
b. Y d. cannot tell

Short Answer

State the definition, property, postulate, or theorem that justifies each statement.

5. $AB + BC = AC$



Name the definition, property, postulate, or theorem that justifies each statement.

6. If $AB = CD$, then $CD = AB$.
7. If $PQ = RS$, then $PQ + AB = RS + AB$.
8. If $\overline{AB} \cong \overline{CD}$ and $\overline{CD} \cong \overline{EF}$, then $\overline{AB} \cong \overline{EF}$.

Name: _____

ID: A

Write the Segment Addition Postulate for the points described. *(Assume the points are collinear)*

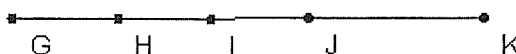
9. S is between D and P

10. J is between S and H

11. C is between Q and R

12. T is between M and N

In the diagram of collinear points, $GK = 24$, $HJ = 10$, and $GH = HI = IJ$. Find each length.



13. HI

14. IJ

15. GH

16. JK

17. IG

18. IK

Find QR in the following problems. *(2 possibilities)*

19. If $RS = 44.6$ and $SQ = 68.4$, find QR.

20. If $RS = 33.4$ and $SQ = 80$, find QR.

Suppose J is between H and K. Use the Segment Addition Postulate to solve for x . Then find the length of each segment.

21. $HJ = 5x$
 $JK = 7x$
 $KH = 96$

22. $HJ = 2x + 5$
 $JK = 3x - 7$
 $KH = 18$

23. $HJ = 6x - 5$
 $JK = 4x - 6$
 $KH = 129$