

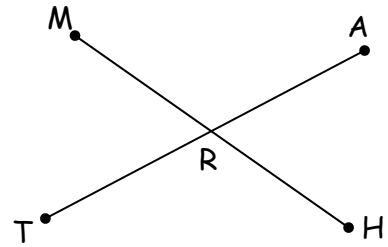
Segments, Angles & Bisectors

Name: _____

Date: _____

1. Complete the following statements.

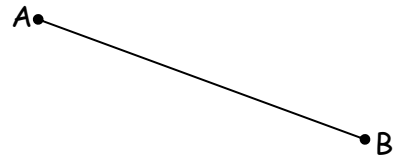
- a) $MR = 24$, $HR =$ _____ b) $TR = 16$, $AT =$ _____
- c) $MH = 58$, $MR =$ _____
- d) Point R is the midpoint of _____ and _____.



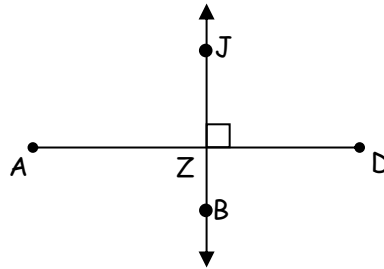
Use Figure 3 for problems 2&3.

2. Given \overline{AB} to the right,

- _____ a) how many *midpoints* can it have?
- _____ b) how many *bisectors* can it have?



3. Given: \overleftrightarrow{JB} is the segment bisector of \overline{AD} ,
 $AD = 24$, $AZ = 2x + 4$, and $m\angle JZA = 3y$,
 Find the value of x and y.



Use Figure 2 for problems 6-10.

- 4. What is the midpoint of \overline{AB} ?
- 5. What is the coordinate of the midpoint of \overline{QB} ?
- 6. What is the coordinate of the midpoint of \overline{WA} ?
- 7. The coordinate of the midpoint of \overline{AR} is -5.
 What is the coordinate of point R?

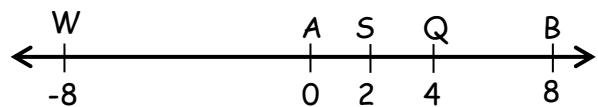


Figure 2

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8. The coordinate of the midpoint of \overline{ST} is 7.
What is the coordinate of point T?

Tell whether each statement is sometimes, always, or never true. Explain.

9. Two segments that have the same length must be congruent.

10. If point M is between points A and B, then point M bisects \overline{AB} .

Use Segment Addition To Solve the Following.

11. Given that point B is between points A and C. If $AB = x$, $BC = 2x - 3$ and $AC = 30$, find x and BC.

12. Given that point P is between points L and M. If $LP = 2x$, $LM = 4x + 30$ and $PM = 50$, find x and LM.

Use the Distance formula to solve the following:

13. \overline{AB} is a segment. A $(-2, -6)$ and B $(-16, -6)$. Find AB.

14. \overline{AB} is a segment. A $(20, -15)$ and B $(17, -8)$. Find AB.

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15. Given \overline{AB} is a segment. One **ENPOINT** is located at $(-14,14)$. The **MIDPOINT** is located $(12, 10)$. Find the other **ENDPOINT**.

16. Two points with coordinates A $(n+1, 3v)$ and B $(v+3, 2n - 4)$ have a midpoint with the coordinates M $(-6, 10)$. Find the values of n and v.