

Chapter 2.1 *Segment Bisectors*

Activity

1. Draw $\overline{AB}$ on a piece of paper.
2. Fold the paper so point B is on point A
3. Label the point where the fold intersects $\overline{AB}$ as point M.
4. Use a ruler to measure the lengths of $\overline{AM}$, $\overline{MB}$, and $\overline{AB}$. What do you notice?

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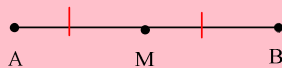
M is the midpoint of AB.

Midpoint - is a point that divides a segment into 2 congruent segments.

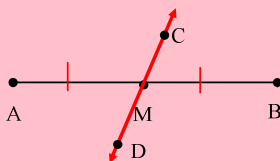
Segment bisector - is a segment, ray, or plane that intersects a segment at its midpoint.

Bisect - to divide the segment into congruent segments.

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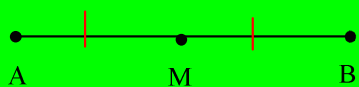
M is the midpoint of $\overline{AB}$



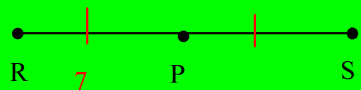
$\overline{CD}$ is a bisector of $\overline{AB}$

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Ex1a) $AB = 16$, find AM and MB



Ex2a) Find PS and RS , given P is the midpoint.

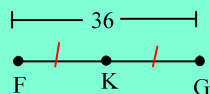


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1 K is the midpoint of FG .
Find FK and KG .



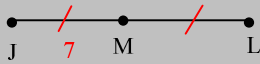
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- 2 M is the midpoint of JL.
Find ML.



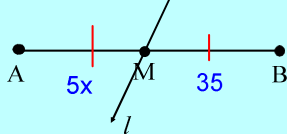
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- 3 JL =



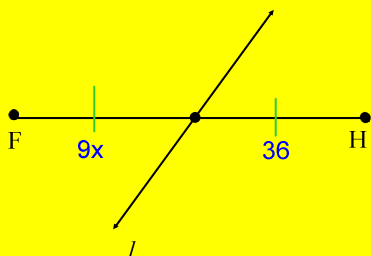
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Ex3) Use algebra with segment lengths.



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- 1 Line s is a segment bisector of FH . Find the value of x .

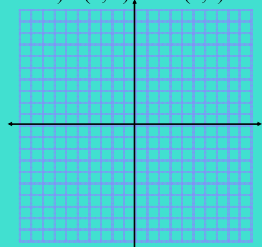


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$$\text{Midpoint} = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$

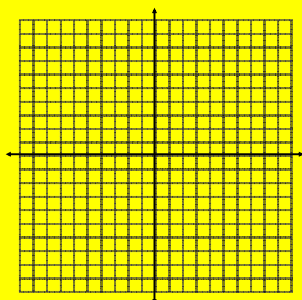
Use this formula to find the midpoint of a line in a coordinate plane.

Ex4a) A(1, 2) and B(7, 4)



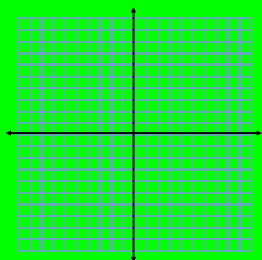
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Ex4b) A(-2, 3) and B(5, -1)



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Try 1. $P(2,5)$ and $Q(4,3)$



Try 2. $S(0,-2)$ and $T(4,0)$

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