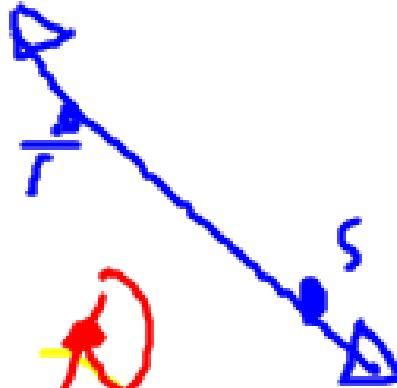


GOOD MORNING!!

Draw Each of the Following...

\overleftrightarrow{TS}



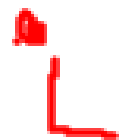
\overline{DC}



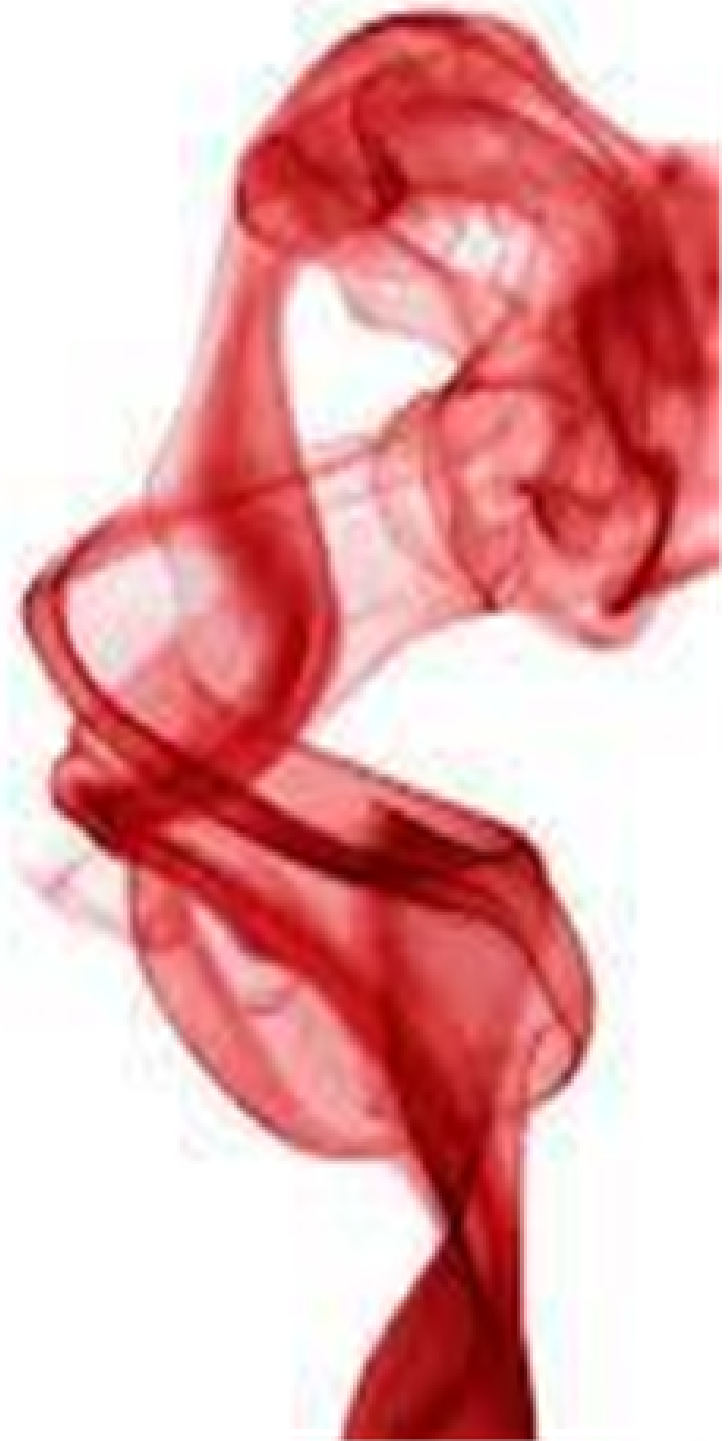
\overrightarrow{XY}



Point L



Homework...?





Sections 1.2 & 1.3

Segment Congruences

Midpoint & Distance Formulas



A Postulate or Axiom is a rule that is accepted without proof

A Theorem is a rule that can be proved.

Congruent Segments are Line Segments that have the same length.



The symbol \cong is used to represent congruence.

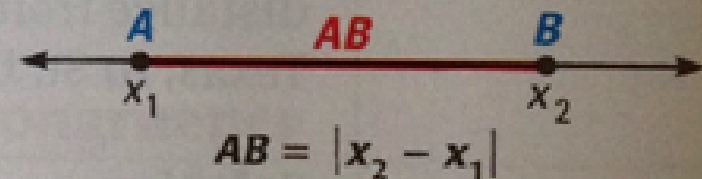
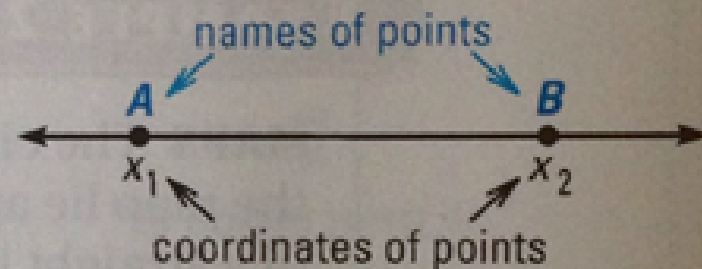
POSTULATE

POSTULATE 1 Ruler Postulate

The points on a line can be matched one to one with the real numbers. The real number that corresponds to a point is the **coordinate** of the point.

The **distance** between points A and B , written as AB , is the absolute value of the difference of the coordinates of A and B .

For Your Notebook



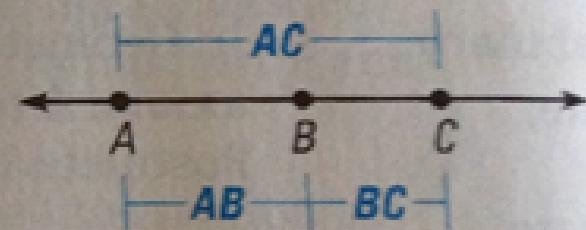
POSTULATE

POSTULATE 2 Segment Addition Postulate

If B is between A and C , then $AB + BC = AC$.

If $AB + BC = AC$, then B is between A and C .

For Your Notebook



EXAMPLES.....



$$AB + BC = AC$$

$$24 + 13 = AC$$

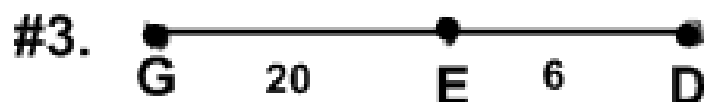
$$AC = \underline{37}$$



$$BE + ED = BD$$

$$12 + 5 = BD$$

$$BD = \underline{17}$$



$$\underline{GE} + \underline{ED} = GD$$

$$20 + 6 = GD$$

$$GD = \underline{26}$$

EXAMPLES.....

#4.

$AB + BC = AC$

$$\begin{array}{r} 15 + x = 36 \\ -15 \quad -15 \\ \hline BC = 21 \\ x = 21 \end{array}$$

#5.

$AB + BC = AC$

$$\begin{array}{r} x + 18 = 40 \\ -18 \quad -18 \\ \hline AC = 22 \\ AB = 22 \\ x = 22 \end{array}$$

1.3 - Using Midpoint and Distance Formulas

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

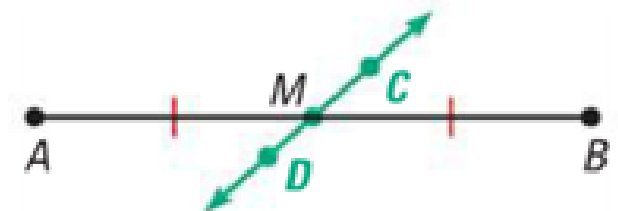


M is the midpoint of \overline{AB} .
So, $\overline{AM} \cong \overline{MB}$ and $AM = MB$.

Marking a segment with a line signifies that they are congruent.

A Segment Bisector is a point, ray, line, line segment, or plane that intersects at its midpoint.

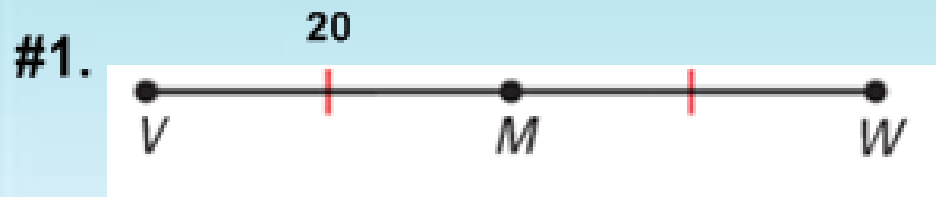
To *bisect* means to divide into two equal parts.



\overleftrightarrow{CD} is a segment bisector of \overline{AB} .
So, $\overline{AM} \cong \overline{MB}$ and $AM = MB$.

Examples.....

Solve for each of the following...



$$VM = MW$$

$$MW = \underline{20}$$



$$VM = MW$$

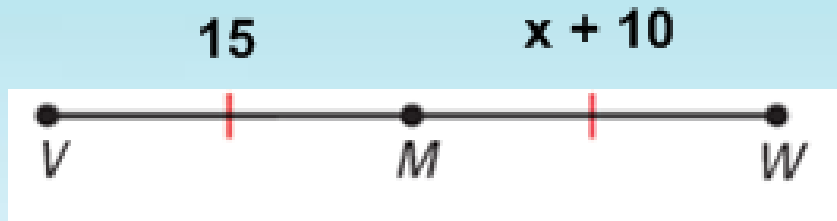
$$\begin{array}{r} 25 = x + 12 \\ -12 \quad -12 \\ \hline 13 = x \end{array}$$

$$\begin{aligned} MW &= \underline{x + 12} \\ &= 13 + 12 \\ &= 25 \end{aligned}$$

MORE Examples.....

Solve for each of the following...

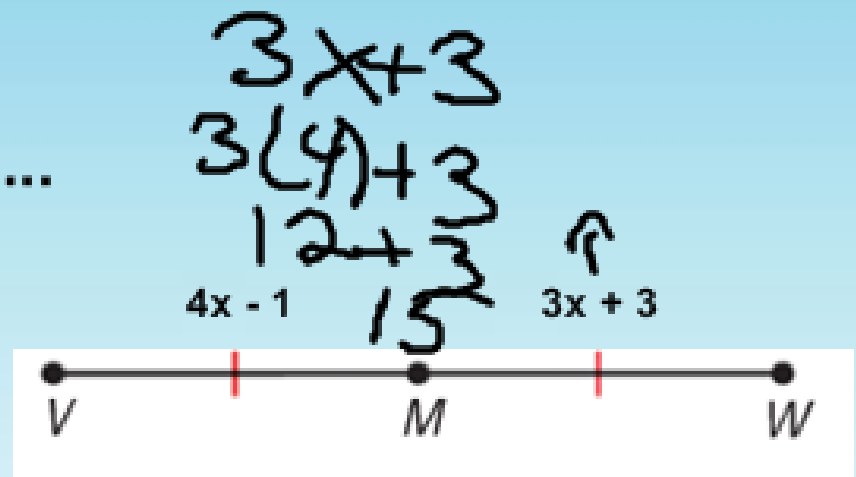
#3.



$$VM = MW$$

$$\begin{array}{r} 15 = x + 10 \\ -10 \quad -10 \\ \hline 5 = x \\ MW = \underline{15} \end{array}$$

#4.



$$VM = MW$$

$$\begin{array}{r} 4x - 1 = 3x + 3 \\ +1 \quad +1 \\ \hline 4x = 3x + 4 \\ -3x \quad -3x \\ \hline 1x = 4 \\ x = 4 \\ MW = \underline{15} \end{array}$$

Work On Worksheet

The background features a series of overlapping, semi-transparent geometric shapes in various shades of blue and white. These shapes, which include triangles and quadrilaterals, are arranged in a way that creates a sense of depth and movement, resembling a stylized, abstract landscape or a series of layered planes.