

Construction #1 **MIDPOINT of a SEGMENT**

a.  $m\overline{AB} = \underline{\hspace{2cm}}$        $m\overline{AM} = \underline{\hspace{2cm}}$        $m\overline{BM} = \underline{\hspace{2cm}}$

M is called the midpoint of  $\overline{AB}$  because ...

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Construction #2 **PERPENDICULAR BISECTOR of a SEGMENT**

b.  $m\angle AMC = \underline{\hspace{2cm}}$        $m\angle BMC = \underline{\hspace{2cm}}$

c.  $m\overline{CA} = \underline{\hspace{2cm}}$        $m\overline{CB} = \underline{\hspace{2cm}}$

 $\overline{MC}$  is called the perpendicular bisector of  $\overline{AB}$  because ...

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Which 2 triangles are congruent?      By what Theorem?

d.  $m\overline{DA} = \underline{\hspace{2cm}}$        $m\overline{DB} = \underline{\hspace{2cm}}$

IF you drew another point, E on  $\overline{MC}$ , What would be true about  $\overline{AE}$  and  $\overline{BE}$ ?

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Construction #3 **ANGLE BISECTOR**

e.  $m\angle XYZ = \underline{\hspace{2cm}}$        $m\angle XYR = \underline{\hspace{2cm}}$        $m\angle RYZ = \underline{\hspace{2cm}}$

 $\overrightarrow{YR}$  is called the angle bisector of  $\angle XYZ$  because

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f.  $m\angle XYQ = \underline{\hspace{2cm}}$        $m\angle ZYQ = \underline{\hspace{2cm}}$

$m\overline{QS} = \underline{\hspace{2cm}}$        $m\overline{QT} = \underline{\hspace{2cm}}$

Which 2 triangles are congruent?      By what Theorem?

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Construction #4   **ANGLE BISECTORS** in a TRIANGLE

g.  $m\angle A = \underline{\hspace{2cm}}$        $m\angle BAX = \underline{\hspace{2cm}}$        $m\angle CAX = \underline{\hspace{2cm}}$   
 $m\angle B = \underline{\hspace{2cm}}$        $m\angle ABX = \underline{\hspace{2cm}}$        $m\angle CBX = \underline{\hspace{2cm}}$   
 $m\angle C = \underline{\hspace{2cm}}$        $m\angle ACX = \underline{\hspace{2cm}}$        $m\angle BCX = \underline{\hspace{2cm}}$

What do we call the point where all the angle bisectors meet? \_\_\_\_\_

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Construction #5    **PERPENDICULAR BISECTORS** in a TRIANGLE

h. The point where all the perpendicular bisector meet is called the \_\_\_\_\_

$m\angle YRC = \underline{\hspace{2cm}}$ 
 $m\angle ZSC = \underline{\hspace{2cm}}$ 
 $m\angle XTC = \underline{\hspace{2cm}}$   
 $m\overline{CX} = \underline{\hspace{2cm}}$ 
 $m\overline{CY} = \underline{\hspace{2cm}}$ 
 $m\overline{CZ} = \underline{\hspace{2cm}}$

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Construction #6    **MEDIANS of a TRIANGLE**

i. A segment connecting the midpoint of a side to the opposite vertex is called a \_\_\_\_\_.

The medians of a triangle intersect at a point called the \_\_\_\_\_.

$m_{\overline{CL}} = \underline{\hspace{2cm}}$ 
 $m_{\overline{CM}} = \underline{\hspace{2cm}}$ 
 $m_{\overline{CN}} = \underline{\hspace{2cm}}$   
 $m_{\overline{CU}} = \underline{\hspace{2cm}}$ 
 $m_{\overline{CV}} = \underline{\hspace{2cm}}$ 
 $m_{\overline{CT}} = \underline{\hspace{2cm}}$

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Construction #7   **MIDSEGMENTS of a TRIANGLE**

j. A segment that joins the midpoints of two sides of a triangle is called a \_\_\_\_\_.

$$\begin{array}{lll} m\overline{AB} = \underline{\hspace{2cm}} & m\overline{BC} = \underline{\hspace{2cm}} & m\overline{AC} = \underline{\hspace{2cm}} \\ m\overline{ZY} = \underline{\hspace{2cm}} & m\overline{XZ} = \underline{\hspace{2cm}} & m\overline{XY} = \underline{\hspace{2cm}} \end{array}$$

In your own words, what is the pattern or connection between the midsegments and the sides of a triangle?

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k.  $m\angle AXZ = \underline{\hspace{2cm}}$  This the same measure as  $\underline{\hspace{2cm}}$ ?  
By corresponding angles, which two lines are parallel?  $\underline{\hspace{2cm}}$

$m\angle BXY = \underline{\hspace{2cm}}$  This the same measure as  $\underline{\hspace{2cm}}$ ?  
By corresponding angles, which two lines are parallel?

$m\angle CYZ = \underline{\hspace{2cm}}$  This the same measure as  $\underline{\hspace{2cm}}$ ?  
By corresponding angles, which two lines are parallel?