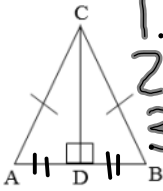


Welcome!! Please grab your ISN and have a seat! DO THIS ON PAPER- NO CHROMEBOOK TODAY!!!!

Give the three reasons the two triangles are congruent, then give the postulate

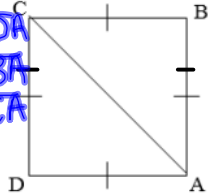
1.  $\triangle ADC \cong \triangle BDC$  SSS

1.  $\overline{CA} \cong \overline{CB}$  (s)  
 2.  $\overline{AD} \cong \overline{DB}$  (s)  
 3.  $\overline{CD} \cong \overline{CD}$  (s)



2.  $\triangle ABC \cong \triangle CDA$  SSS

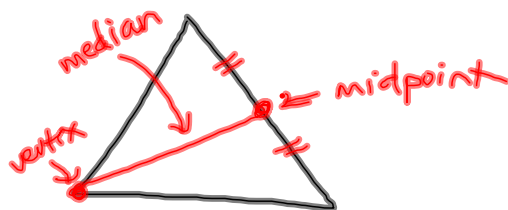
1.  $\overline{CB} \cong \overline{DA}$   
 2.  $\overline{CD} \cong \overline{BA}$   
 3.  $\overline{CA} \cong \overline{CA}$



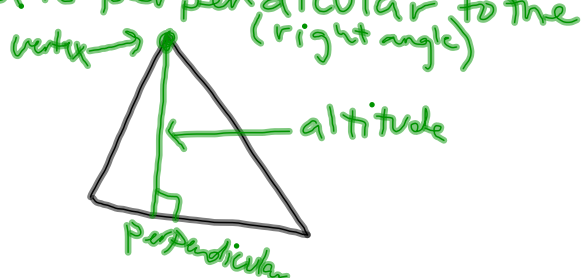
Oct 12-7:53 AM

WWK: (pg 33-34)

median a segment that goes from the vertex of a triangle to the midpoint of the opposite side.

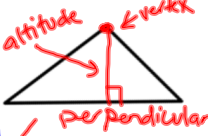


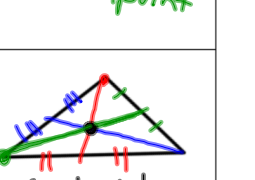
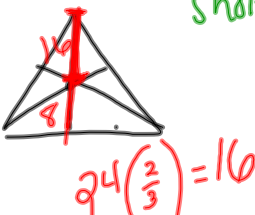


altitude a segment that goes from the vertex of a triangle and is perpendicular to the opposite side.



Oct 12-8:26 AM

## TOC 43-44 Altitudes and Medians

Altitude	Median
<ul style="list-style-type: none"> <li>• Goes from the <b>vertex</b> to the <b>opposite side</b></li> <li>• <b>perpendicular</b> to the opposite side, making it a <b>right angle</b></li> <li>• <b>outside</b> triangle in an <b>obtuse</b> triangle</li> <li>• All three altitudes meet at a point called the <b>orthocenter</b></li> </ul>	<ul style="list-style-type: none"> <li>• Goes from the <b>vertex</b> to the <b>midpoint</b> of the opposite side</li> <li>• DOES NOT <b>bisect</b> an angle unless it is given!!</li> <li>• All three medians meet at a point called the <b>centroid</b></li> </ul>
	
 <p style="text-align: center;">Orthocenter *outside <math>\Delta</math> in an obtuse <math>\Delta</math></p>	 <p style="text-align: center;">Centroid long side <math>(\frac{2}{3}) &lt;</math> short side <math>(\frac{1}{3})</math> side</p>
 <p style="text-align: center;"><math>24(\frac{2}{3}) = 16</math></p>	

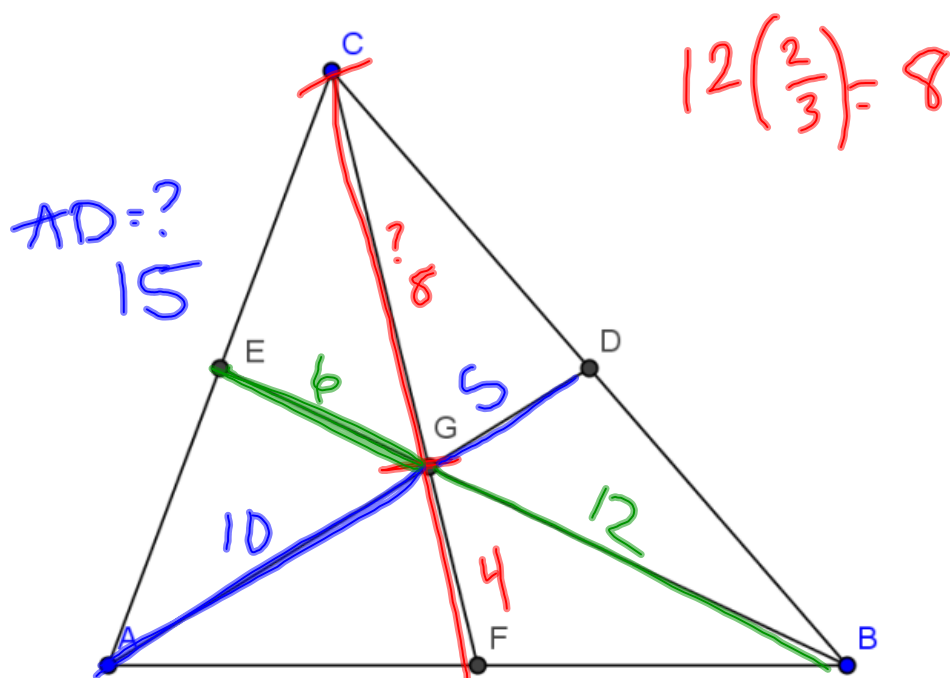
Oct 12-8:27 AM

Welcome!! Please grab your ISN and warmups and have a seat!

1. The \_\_\_\_\_ is the line segment that goes from the midpoint of a side to the opposite vertex of a triangle.
2. The \_\_\_\_\_ is the intersection of the medians.
3. The \_\_\_\_\_ is the line segment from the vertex of a triangle to the opposite side and forms a right angle.
4. The \_\_\_\_\_ is the intersections of the altitudes.
5. The orthocenter is outside the triangle on the \_\_\_\_\_ triangle.

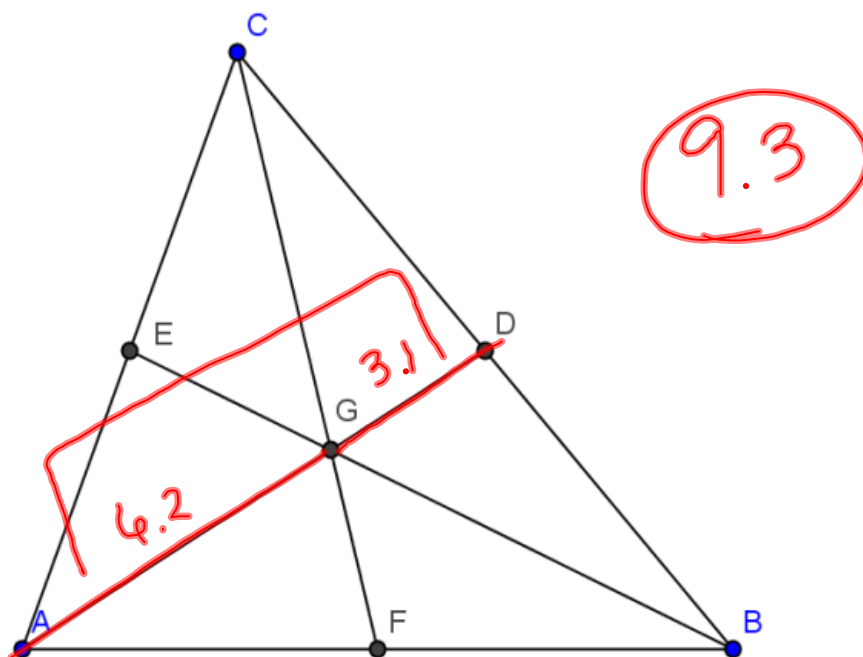
Oct 12-8:29 AM

Ex 1 (pg 43) Given  $CF = 12$ . Find  $CG$



Oct 12-8:28 AM

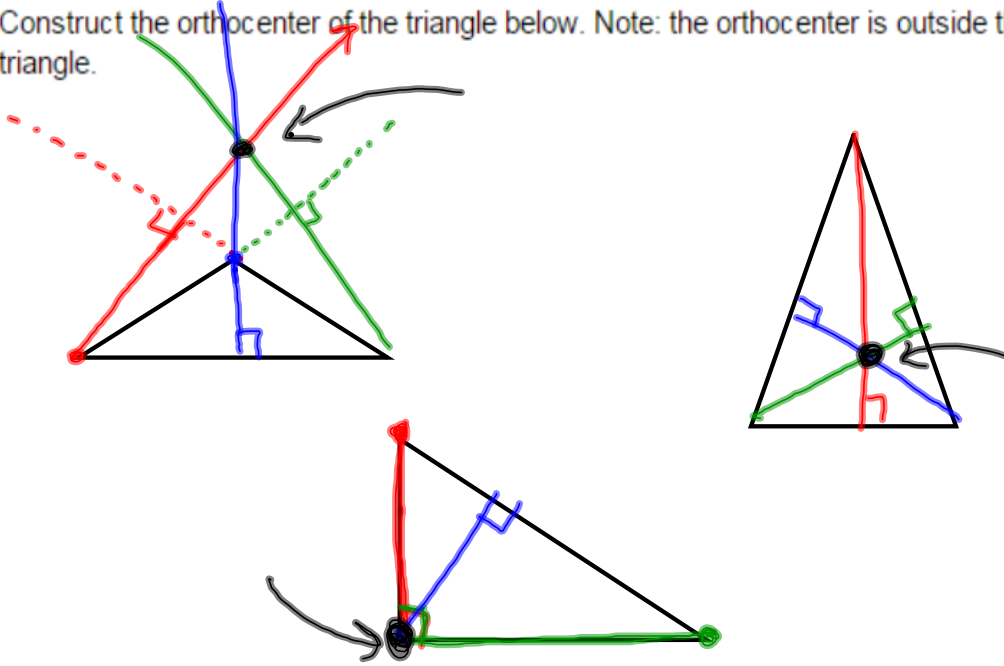
Ex 2 (pg 41) Given  $DG = 3.1$ . Find  $AD$



Oct 12-8:29 AM

## Ex 3 (pg 41)

2. Construct the orthocenter of the triangle below. Note: the orthocenter is outside this triangle.



Oct 12-8:30 AM

Fill in the blank.

11. The \_\_\_\_\_ is  $\frac{2}{3}$  the distance of the median from the vertex.
12. The orthocenter is located outside the triangle in a(n) \_\_\_\_\_ triangle.
13. In a \_\_\_\_\_ triangle, altitudes are legs.

Oct 12-2:17 PM

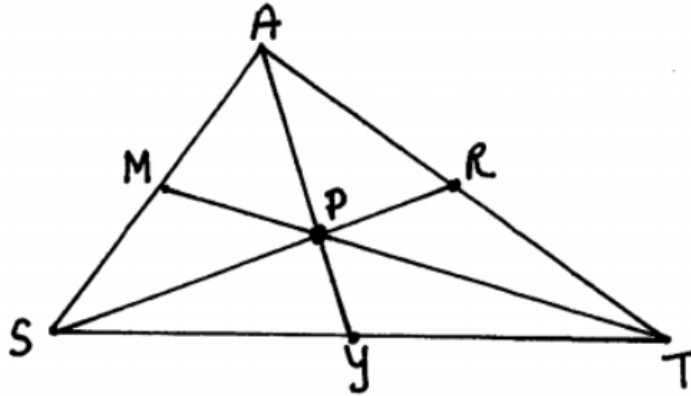
$P$  is a centroid.

$PR = 12$

$PT = 8$

$AR = 9$

$AY = 21$



Find:

$SP = \underline{\hspace{2cm}}$

$TM = \underline{\hspace{2cm}}$

$AT = \underline{\hspace{2cm}}$

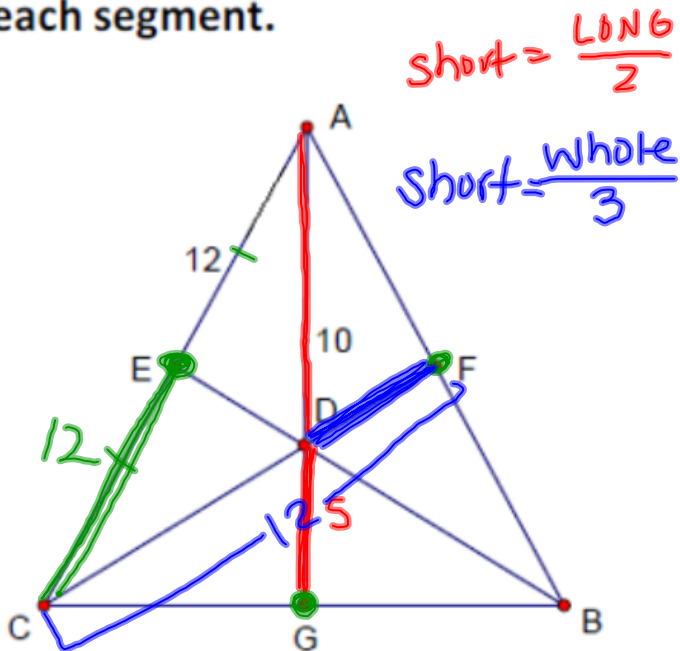
$PY = \underline{\hspace{2cm}}$

Oct 12-2:12 PM

$D$  is the centroid of  $\triangle ABC$ ,  $\overline{AE} = 12$ ,  $\overline{AD} = 10$ ,  $\overline{CF} = 12$ .  
Find the length of each segment.

1.

- $\overline{DG} = \underline{5}$
- $\overline{AG} = \underline{15}$
- $\overline{EC} = \underline{12}$
- $\overline{AC} = \underline{24}$
- $\overline{DF} = \underline{4}$

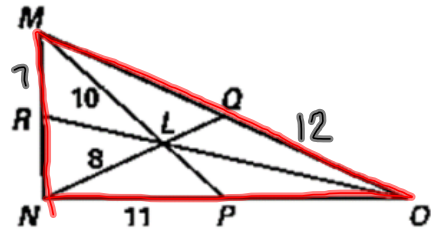


Oct 12-2:13 PM

Use the figure shown and the given information.

$L$  is the centroid of  $\triangle MNO$ ,  $NP = 11$ ,  $ML = 10$ , and  $NL = 8$ .

8. Find the length of  $\overline{PO}$ .
9. Find the length of  $\overline{MP}$ .
10. Find the length of  $\overline{LQ}$ .
11. Find the length of  $\overline{NQ}$ .
12. Find the perimeter of  $\triangle NMO$ .

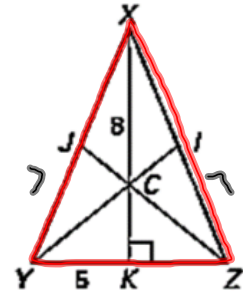


Use the figure shown and the given information.

$C$  is the centroid of  $\triangle XYZ$ ,  $YK = 5$ ,  $XC = 8$ ,  $YI = 9.6$  and  $\overline{XK} \perp \overline{YZ}$ .

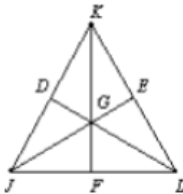
13. Find the length of  $\overline{CK}$ .
14. Find the length of  $\overline{XK}$ .
15. Find the length of  $\overline{YC}$ .
16. Find the length of  $\overline{KZ}$ .
17. Find the length of  $\overline{JZ}$ .
18. Find the perimeter of  $\triangle XYZ$ .

$$\overline{JZ} \approx \overline{YI}$$



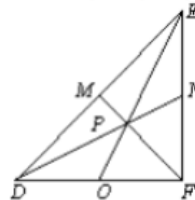
Oct 12-2:12 PM

In  $\triangle JKL$ ,  $\overline{JE}$ ,  $\overline{KF}$ , and  $\overline{LD}$  are medians.



1. If  $GF = 15$ , then  $KG =$  \_\_\_\_\_
2. If  $JG = 13$ , then  $\overline{JE} =$  \_\_\_\_\_
3. If  $JL = 22$ , then  $FL =$  \_\_\_\_\_
4. If  $KE = 20$ , then  $KL =$  \_\_\_\_\_
5. If  $DL = 24$ ,  $\overline{LG} =$  \_\_\_\_\_  
and  $\overline{DG} =$  \_\_\_\_\_

In  $\triangle DEF$ ,  $\overline{DN}$ ,  $\overline{EO}$ , and  $\overline{FM}$  are medians.



6. If  $DE = 45$ , then  $DM =$  \_\_\_\_\_
7. If  $PD = 20$ , then  $\overline{PN} =$  \_\_\_\_\_
8. If  $DO = 8.5$ , then  $FD =$  \_\_\_\_\_
9. If  $OE = 22$ ,  $\overline{EP} =$  \_\_\_\_\_  
and  $\overline{OP} =$  \_\_\_\_\_
10. If  $MP = 10$ , then  $PF =$  \_\_\_\_\_

Oct 31-9:50 AM