Ed Puzzle

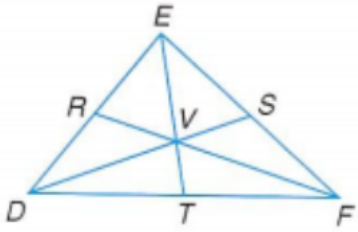
Nowwwwwwwwww!!!!!!!!!!!!!!!!

Nov 3-8:59 AM

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

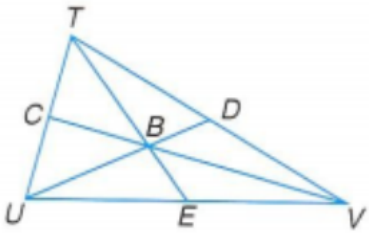
In $\triangle DEF$, $\overline{DS}$, $\overline{FR}$, and $\overline{ET}$ are medians.

3. Find EV if $VT = 5$.
4. If $FR = 20.1$, what is the measure of $\overline{VR}$?



In $\triangle TUV$, $\overline{TE}$, $\overline{UD}$, and $\overline{VC}$ are medians.

5. Find EV if $UV = 24$.
6. If $TC = 8$, find TU.
7. What is TD if $TV = 29$?

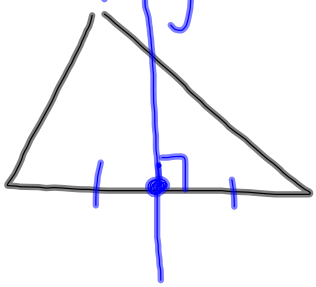


Oct 13-11:39 AM

WWK:

angle bisector a segment that cuts an angle into 2 equal pieces.

perpendicular bisector – a segment that intersects the midpoint of a side at a right angle.



Oct 13-11:41 AM

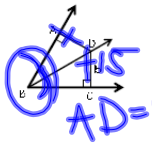
TOC 45-46 Triangle Bisectors

Angle Bisector Theorem: If a line bisects an angle, then it is equidistant from the sides of $\angle$.

Converse of the Angle Bisector Theorem: If a point is equidistant from the sides of $\angle$, then the line bisects the angle.

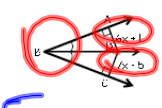
$\angle ABD \cong \angle CBD$

Example 1: Find AD.



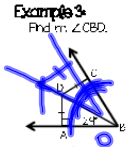
AD = 15

Example 2: Find the value of x.



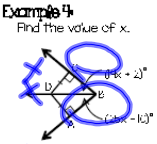
8

Example 3: Find m $\angle$CBD.



29°

Example 4: Find the value of x.



6

Angle Bisector Theorem

$6x+1=7x-5$

$-6x \quad -6x$

$1 = 1x-5$

$+5 \quad +5$

$6 = x$

Converse of the Angle Bisector Theorem

$19x+2=25x-10$

$-19x \quad -19x$

$2 = 6x-10$

$+10 \quad +10$

$12 = 6x$

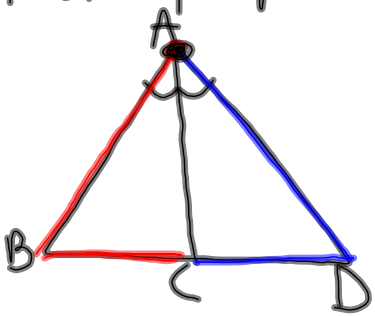
$\frac{12}{6} = \frac{6x}{6}$

$x = 2$

Nov 2-8:50 AM

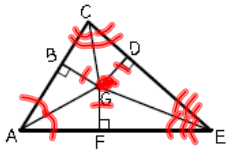
TOC 45-46 Triangle Bisectors

*An angle bisector will cut the sides of a Δ proportionally.

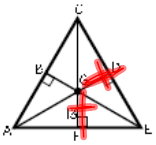


$\frac{AB}{BC} = \frac{AD}{DC}$

Incenter Theorem: All 3 angle bisectors meet at a point called the incenter.



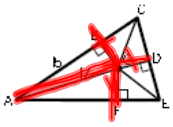
Example 5: Find GD. Point G is the incenter.



GD = 13

Example 6: Find GF. Point G is the incenter.

BG = 8



GF = 8

Incenter Theorem

Oct 13-11:48 AM

TOC 45-46 Triangle Bisectors

line that is ⊥ @ midpoint

equal distance from either endpoint (in the middle)

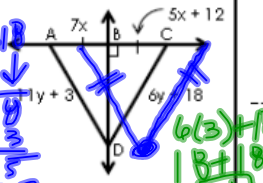
If a point is on the perp. bisec then it is equidistant fm the endpoints.

If a point is equidistant it is on the Perpendicular bisector

USE the PERPENDICULAR BISECTOR THEOREM

1. Find AB.
$7x = 5x + 12$
$-5x \quad -5x$
$2x = 12$
$x = 6$
$7(6) = 42$

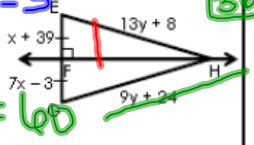
2. Find CD.
$11y + 3 = 14y - 12$
$-11y \quad -11y$
$3 = 3y - 12$
$+12 \quad +12$
$15 = 3y$
$y = 5$



$6(3) + 18$
$18 + 18$
36

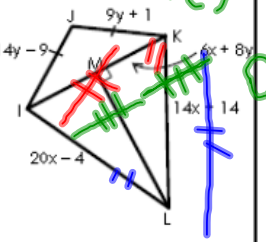
3. Find EF.
$x = 7$
$EF = 46$

4. Find GH.
$y = 4$
$GH = 60$



5. Find LK.
$x = 3$
$LK = 56$

6. Find IL.
$6(3) + 8(2) = 56$



7. Find JL.
$y = 2$

8. Find KJ.
$14y - 9 = 19$

9. Find MK.
19

10. Find IM.
34

34

When 3 or more lines intersect they are concurrent.

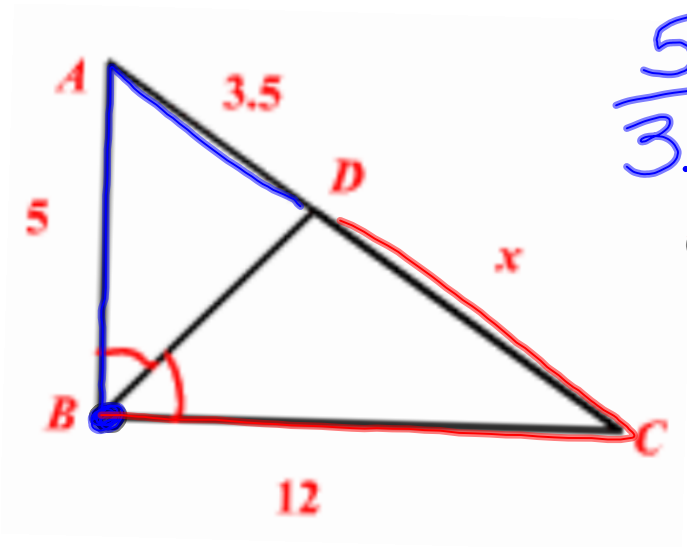
The point where they meet is the point of concurrency.

The 3 Perpendicular bisectors of a ▲ will meet @ a point of concurrency.

This point is called the Circumcenter

Oct 13-11:48 AM

Ex 1 (pg 43) Find x (given angle bisector)



$\frac{5}{3.5} = \frac{12}{x}$

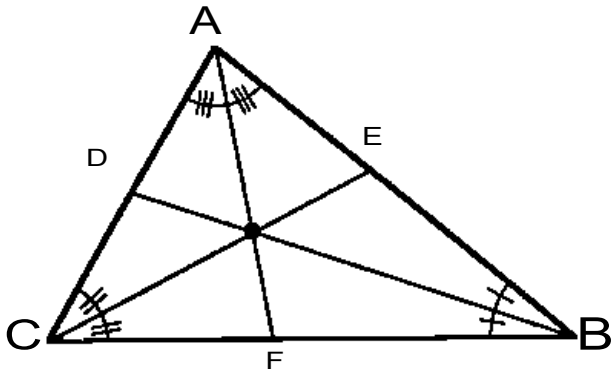
$5x = 42$

$\frac{5x}{5} = \frac{42}{5}$

$x = 8.4$

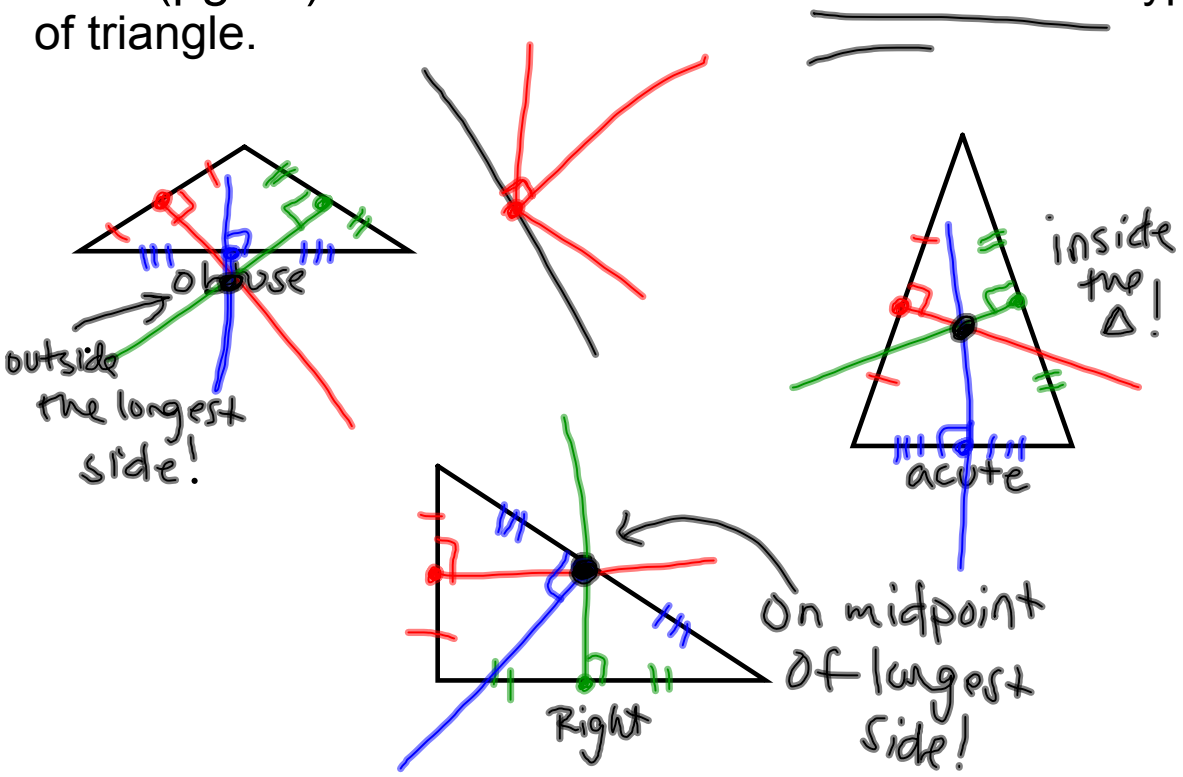
Oct 13-11:49 AM

Ex 2 (pg 43) Given AB = 15, BF = 5, CF = 4, and CD = 6. Find AC and CB



Oct 13-11:50 AM

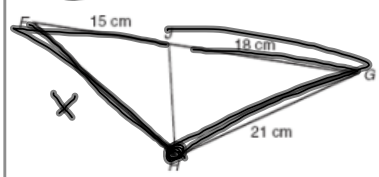
Ex 3 (pg 46) Construct the circumcenter on each type of triangle.



Oct 13-11:52 AM

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

6. $\overline{HJ}$ bisects $\angle H$. Calculate HF.

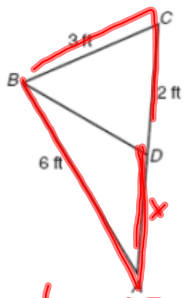


$\frac{21}{18} = \frac{x}{15}$

$315 = 18x$

$x = 17.5$

7. $\overline{BD}$ bisects $\angle B$. Calculate AD.

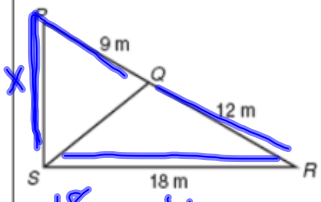


$\frac{6}{x} = \frac{3}{2}$

$12 = 3x$

$x = 4$

8. $\overline{SQ}$ bisects $\angle S$. Calculate SP.



$\frac{18}{12} = \frac{x}{9}$

$162 = 12x$

$x = 13.5$

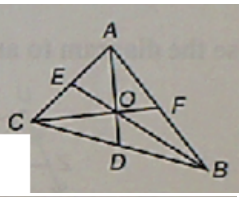
Oct 14-4:07 PM

	bisect sides	always inside triangle	forms right angles	formed by medians	formed by altitudes	formed by angle bisectors	formed by perpendicular bisectors	outside triangle on obtuse	inside triangle on acute	connects to a vertex of an angle
Centroid										
Ortho center										
In center										
Circumcenter										

Oct 14-2:36 PM

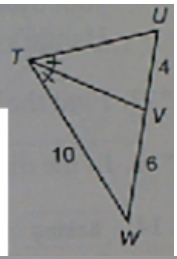
Classwork

1. In $\triangle ABC$, $AD = 5$ and $EO = 4.2$. Use the Centroid Theorem to find the lengths of $\overline{OD}$ and $\overline{BE}$ to the nearest hundredth.

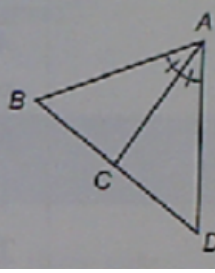


2. Where is the orthocenter of a right triangle located?

3. Using the diagram at the right, find the length of $\overline{TU}$ if $UV = 4$, $TW = 10$, and $WV = 6$.



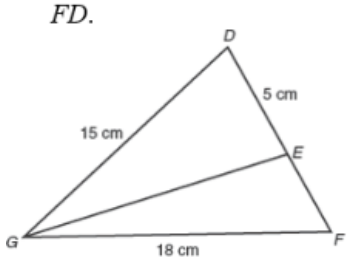
4. Using the diagram at the right, find BC if $AD = 15$, $DC = 8$, and $AB = 20$.



Oct 13-11:53 AM

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

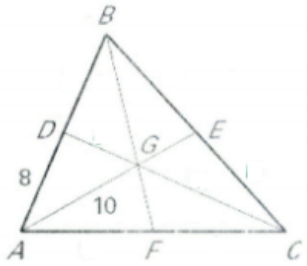
1 . $\overline{GE}$ bisects $\angle G$. Calculate FD.



Point G is **the** ***centroid*** **of** ΔABC, $AD = 8$, $AG = 10$, $BE = 10$, $AC = 16$ and $CD = 18$. **Find the length of each segment.**

30. If Point G is the ***centroid***, then Point G is the point of concurrency of

the _____.



31. DB =

32. EA =

33. CG =

34. BA =

35. GE =

36. GD =

37. BC =

38. AF =

Oct 16-8:19 AM

Nov 8-9:46 AM