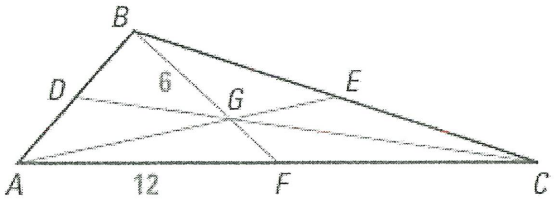
Geometry- Mrs. Tilus
Unit 5- Worksheet #4: Use Medians and Altitudes

Name: Key

$\overline{AE}$, $\overline{BF}$ and $\overline{CD}$ are medians of $\triangle ABC$ and $BG = 6, AF = 12$ and $AE = 15$.



1. Point G is called the Centroid

2. FC = 12 units

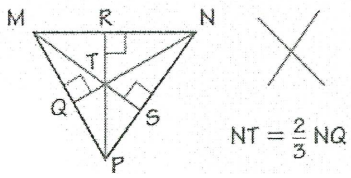
3. BF = 9 units

4. AG = 10units

5. GE = 5units

6. A student uses the fact that T is a point of concurrency to conclude that $NT = \frac{2}{3}NQ$. Explain what is wrong with this reasoning.

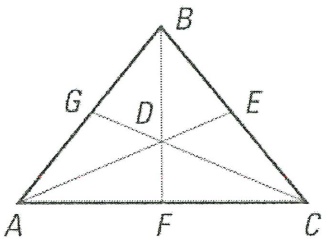
Look @ the segments creating the point of concurrency.



Point D is the centroid of $\triangle ABC$. Use the given information to find the value of x.

7. $BD = 4x + 5$ and $BF = 9x$

X = 2.5



8. $GD = 2x - 8$ and $GC = 3x + 3$

X = 9 units

9. $AD = 5x$ and $DE = 3x - 2$

X = 4 units

10. For ΔDEF with medians $\overline{DH}$, $\overline{EJ}$ and $\overline{FG}$, and centroid K. Draw a diagram displaying an example of ΔDEF with its medians and fill in a fraction on the space provided.

Diagram

$KH =$ 1/3 DH

$DK =$ 2 KH

$FG =$ 3/2 KF

$EJ =$ 3 KJ

$FK =$ 2 GK

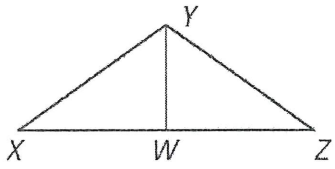
Use the diagram shown and the given information to decide whether $\overline{YW}$ is a perpendicular bisector, an angle bisector, a median or an altitude of $\triangle XYZ$. There may be more than one right answer.

11. $\overline{YW} \perp \overline{XZ}$

Altitude

12. $\angle XYW \cong \angle ZYW$

Angle Bisector



13. $\overline{XW} \cong \overline{ZW}$

Median

14. $\overline{YW} \perp \overline{XZ}$ and $\overline{XW} \cong \overline{ZW}$

All

15. $\triangle XYW \cong \triangle ZYW$

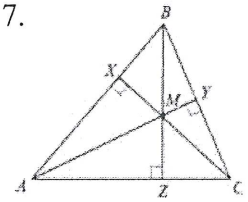
All

16. $\overline{YW} \perp \overline{XZ}$ and $\overline{XY} \cong \overline{ZY}$

All

In each figure below, tell what point of concurrency is illustrated and identify the line segments that forms that point.

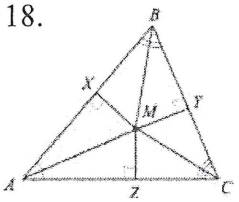
17.



Orthocenter

Altitudes

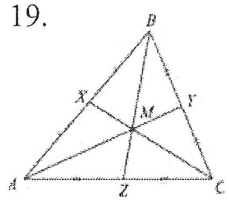
18.



Incenter

Angle Bisectors

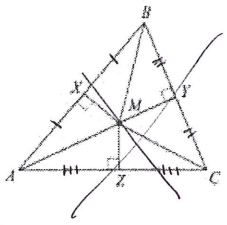
19.



Centroid

Medians

20.



Circumcenter

⊥ Bisectors