

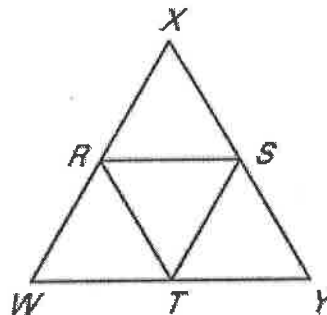
Honors Geometry
 Quiz Review Worksheet
 (Section 5.1-5.4)

Name Key

- The C connects a vertex of a triangle to the midpoint of the opposite side.
- The G is always equidistant from the sides of the triangle and is the point where the three D meet in the triangle.
- The A is the point of concurrency for the three medians in a triangle.
- A F connects the midpoints of two sides of a triangle.
- The perpendicular bisectors of a triangle meet at the B and are equidistant from the E of the triangle.
- The point of concurrency for the altitudes is the H.

- ~~a.~~ Centroid
- ~~b.~~ Circumcenter
- ~~c.~~ Median
- ~~d.~~ Angle Bisector
- ~~e.~~ Vertices
- ~~f.~~ Midsegment
- ~~g.~~ Incenter
- ~~h.~~ Orthocenter

You will need to write small or use a separate sheet of paper!
 Given $\triangle WXY$ with midpoints R, S, and T, find each of the following.



- $\overline{RS} \parallel \overline{WY}$
- $\overline{WR} \parallel \overline{TS}$
- If $RS = 4$, find WY . 8
- If $XS = 16$, find RT . 16
- If $ST = 6.5x - 10$ and $XW = 3x + 20$, find RX .
 $2(6.5x - 10) = 3x + 20$ $10x = 40$ $RX = 6.5(4) - 10$
 $13x - 20 = 3x + 20$ $x = 4$ $= 16$

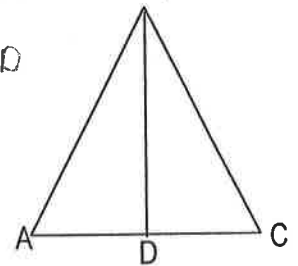
- In the figure above, if the coordinates of X are (-3, 7) and the coordinates of W are (7, 11) find the coordinates of R.

$$\left(\frac{-3+7}{2}, \frac{7+11}{2} \right)$$

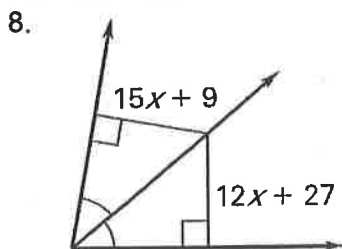
$$R = (2, 9)$$

- State all the information you would need to know to make each of the following statements true. B

- \overline{BD} is an angle bisector.
 $\angle ABD \cong \angle CBD$
- \overline{BD} is a median.
 $\overline{AD} \cong \overline{CD}$
- \overline{BD} is an altitude.
 $\angle BDC = 90^\circ$
- \overline{BD} is a perpendicular bisector.
 $\angle BDC = 90^\circ, \overline{AD} \cong \overline{CD}$



Find the value of x and state the theorem you used to set up your equation.

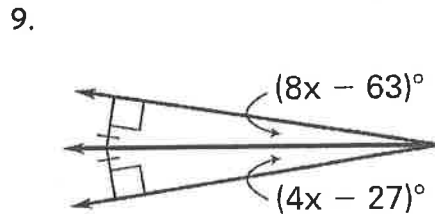


$$15x + 9 = 12x + 27$$

$$3x = 18$$

$$x = 6$$

Angle Bisector

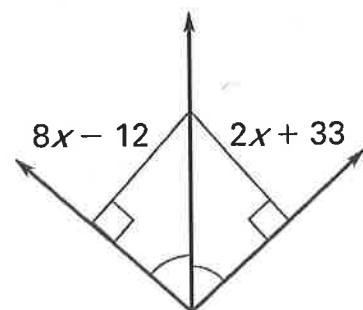


$$8x - 63 = 4x - 27$$

$$4x = 36$$

$$x = 9$$

Converse of Angle Bisector



$$8x - 12 = 2x + 33$$

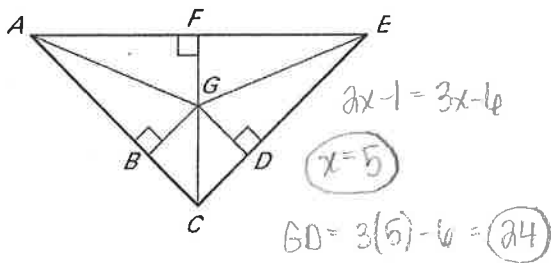
$$6x = 45$$

$$x = 7.5$$

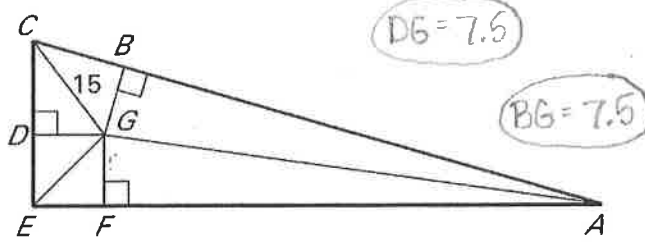
Angle Bisector

G is the Incenter of the following triangles.

12. If $FG = 2x-1$ and $GD = 3x-6$. Find GD .

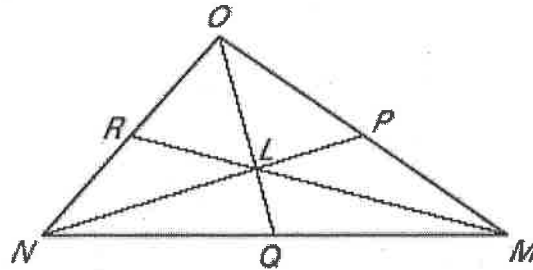


13. Find BG if $DG = \frac{1}{2}(CG)$.



14. L is the centroid of the triangle. Find x if $OP = 5x$ and $PM = 2x+9$.

Handwritten work:
 $5x = 2x + 9$
 $3x = 9$
 $x = 3$



15. L is the circumcenter of the triangle. Find x if $OL = 3x+3$ and $ML = 4x-3$.

Handwritten work:
 $3x+3 = 4x-3$
 $x = 6$

Solve the following, showing all work:

16. Given: \overline{FJ} is a Perp. bisector of \overline{HK} .

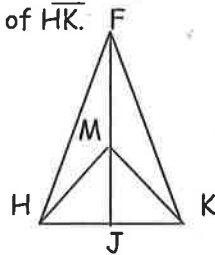
$HF = 2x + 5$

$HM = 2x$

$FM = x + 3$

$KF = 3x - 2$

Find the perimeter of $\triangle HFM$



17. Given: A is equidistant from B and D.

Triangle BDC is equilateral.

$m\angle 1 = 5x - 16$

$m\angle 2 = 3x + 12$

$m\angle 3 = 4x + 4$

Find: $m\angle ABC$

Handwritten work:
 $5x - 16 = 3x + 12$

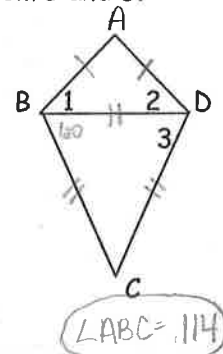
$2x = 28$

$x = 14$

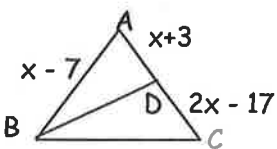
$5(14) - 16$

$\angle 1 = 54$

$\angle ABC = 114$



18. Find AB if \overline{BD} is a median

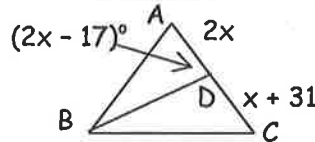


Handwritten work:
 $x+3 = 2x-17$

$x = 20$

$AB = 20 - 7 = 13$

19. Find AC if \overline{BD} is an altitude.



Handwritten work:
 $2x - 17 = 90$

$2x = 107$

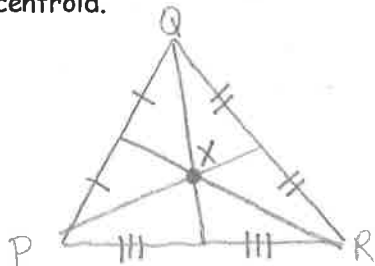
$x = 53.5$

$AC = 2(53.5) + 53.5 + 31$

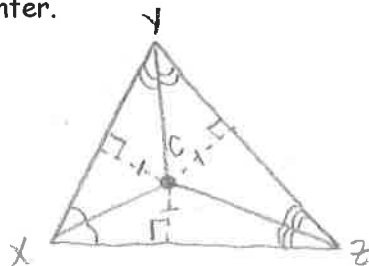
$= 191.5$

Draw a picture to represent each of the following descriptions. Use the necessary marks to indicate congruent angles, segments or right angles. Each should include a special segment from this chapter!

20. In $\triangle PQR$, point X is the centroid.



21. In $\triangle XYZ$, point C is the incenter.



22. In $\triangle ABC$, point P is equidistant from C and B.

