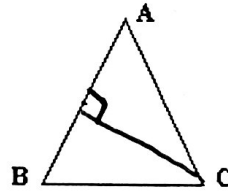
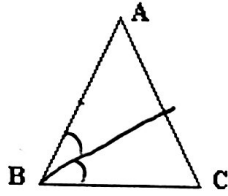
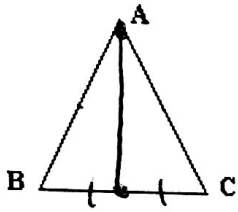
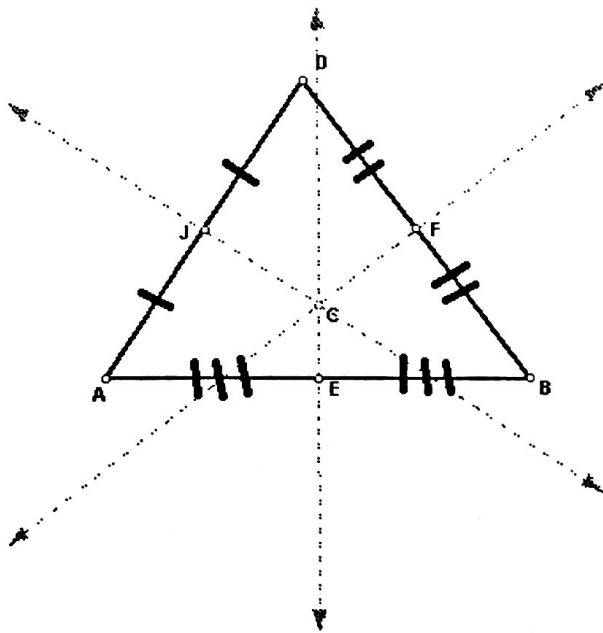


Name: _____
 Date: _____
 Class: _____

Geometry
 Unit 4
 HW 4-6



- 1) In the first triangle sketch a median from A to \overline{BC} with proper marks. *vertex to midpoint*
- 2) In the second triangle sketch an angle bisector for $\angle B$ with proper marks. *cut \angle in half*
- 3) In the 3rd triangle sketch an altitude from C with proper marks. *\perp to opp side*



4) The 3 lines are called (each is perpendicular to the side it intersects): *\perp bisectors*

5) Point G is called the:

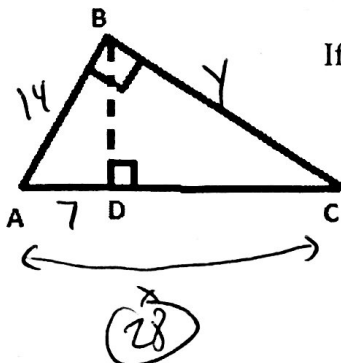
Circumcenter

6) How do CG, BG, and AG compare in length?

They are all equal

(Circumcenter is equal distance from vertices)

7)



If $AB = 14$ and $AD = 7$, find the area and perimeter of $\triangle ABC$

$$\frac{14}{7} = \frac{x}{14}$$

$$196 = 7x$$

$$x = 28$$

$$14^2 + y^2 = 28^2$$

$$\sqrt{y^2} = \sqrt{588}$$

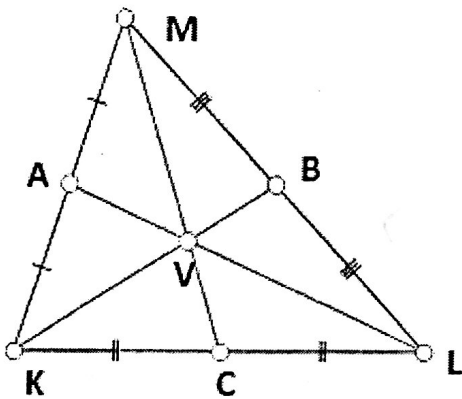
$$y = \sqrt{588}$$

$$\text{Perim} \rightarrow 66.2$$

$$\text{Area} = \frac{1}{2}(14)(\sqrt{588}) = 169.7$$

(key)

Use this diagram for all questions on this page.



$$\frac{2}{3} = \frac{2x+2}{2x+12}$$

$$4x+24 = 6x+6$$

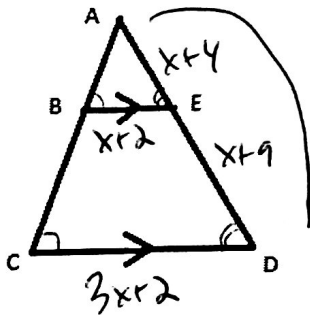
$$18 = 2x$$

$$x = 9$$

8) If $LV = 2x + 2$ and $LA = 2x + 12$ find x .

\uparrow $\frac{2}{3}$ rds \uparrow whole

9)



In the following triangle, $BE = x + 2$, $AE = x + 4$, $CD = 3x + 2$, and $ED = x + 9$. Find and explain BE.

$\Delta ABE \sim \Delta ACD$ by AA

$$\frac{x+2}{3x+2} = \frac{x+4}{2x+13} \quad (\sim \Delta \text{'s have common SF})$$

$$(x+2)(2x+13) = (3x+2)(x+4)$$

$$2x^2 + 13x + 4x + 26 = 3x^2 + 12x + 2x + 8$$

$$2x^2 + 17x + 26 = 3x^2 + 14x + 8$$

$$0 = x^2 - 3x - 18$$

$$0 = (x-6)(x+3)$$

$x = 6$ ~~$x = -3$~~
neg sides

$6+2 = 8 = BE$