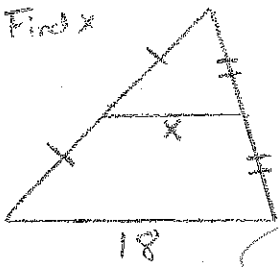


L3 Geometry Midyear Exam Review
Chapter 5

Name KAY
Date _____

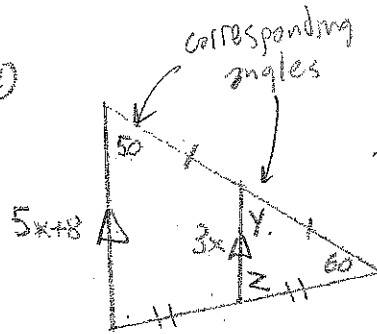
① Find x



MIDSEGMENT:
 $\frac{1}{2}$ THE LENGTH
AND PARALLEL

$x = 9$

②



Find x, y, and z.

$$2(3x) = 5x + 8$$

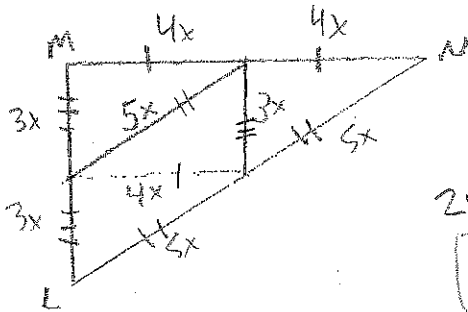
$$6x = 5x + 8$$

$$x = 8$$

$$y = 50$$

$$z = 70$$

③



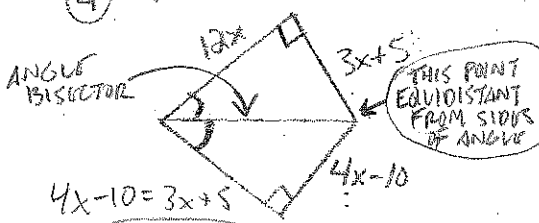
The perimeter of $\triangle LMN$ is 96 in.
Find x

$$24x = 96$$

$$x = 4$$

YOU SHOULDN'T END UP WITH NEGATIVE DISTANCE!

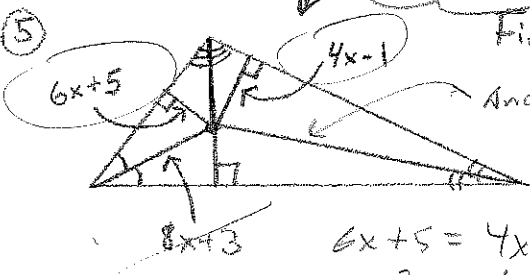
④ Find x



$$4x - 10 = 3x + 5$$

$$x = 15$$

⑤



Find x

Angle bisectors create the INCENTER, which is equidistant from the sides of the triangle

$$6x + 5 = 4x - 1$$

$$2x = -6$$

$$x = -3$$

⑥ Label \overline{AB} as a median, altitude, angle bisector, perpendicular bisector, or none

(a) NONE

(b) NONE

(c) ANGLE BISECTOR

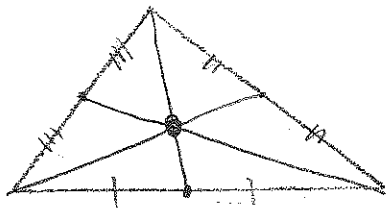
(d) PERP. BISECTOR

(e) ALTITUDE

(f) ALTITUDE

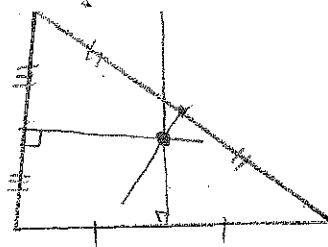
(g) MEDIAN

7



Construct the centroid
(from 3 MEDIANS - VERTEX TO MIDDLEPOINT)

8



construct the orthocenter
(FROM 3 PERP. BISECTORS)
(equidistant vertices)

9 The point of concurrency that is created from bisecting the angles of a triangle is equidistant from the sides of the Δ .

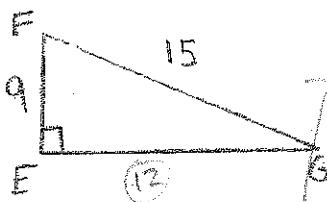
10 List the sides from largest to smallest



LARGEST: \overline{AC}
SMALLEST: \overline{AB}

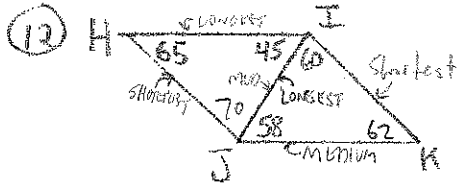
11 List the angles from largest to smallest

USE PYTHAGOREAN THEOREM
FIRST: $a^2 + b^2 = 15^2$
 $81 + b^2 = 225$
 $b^2 = 144$
 $b = 12$



LARGEST: $\angle E$
SMALLEST: $\angle G$

*



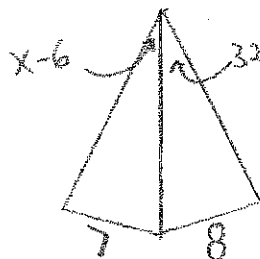
\overline{HJ} IS SHORTEST

13 Find the range of possible values for x.

$$0 < x - 6 < 32$$

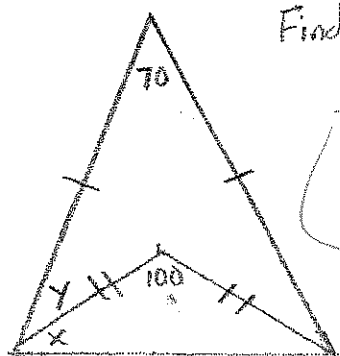
$$+6 \quad +6 \quad +6$$

$$6 < x < 38$$



Identify the shortest segment in the figure.

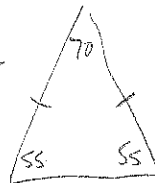
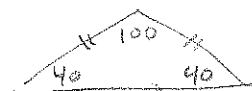
14



Find x and y

$$x = 40$$

$$y = 15$$



$$y = 55 - 40$$

$$y = 15$$

15 Is it possible to construct a triangle from the given side lengths?

(ANY 2 MUST BE GREATER THAN THE 3RD)

a) 5, 20, 18
YES

b) 6, 6, 8
YES

c) 9, 11, 24
NO

d) 3, 11, 14
NO