Name: _____

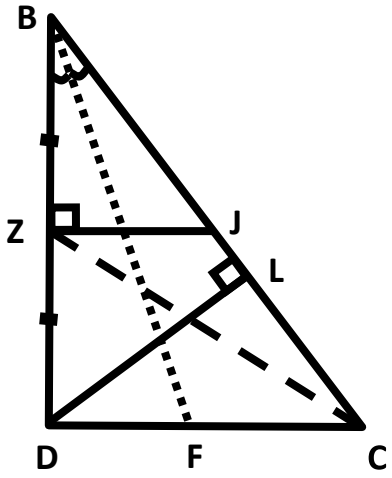
Fill in the table below using the word list

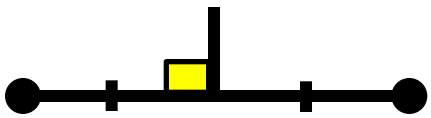
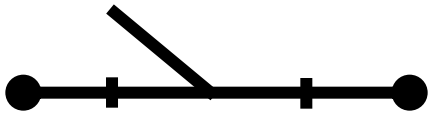
Segment Name	Point of Concurrency	Special Quality	Goes to Midpoint	Starts at Vertex
Perpendicular Bisector				
Angle Bisector				
Median				
Altitude				

Yes, No, Centroid, Circumcenter, Incenter, Orthocenter, equidistant from sides, equidistant from vertices, 2/3 distance from vertex, center of gravity, None

Match the segment with the corresponding part in picture.

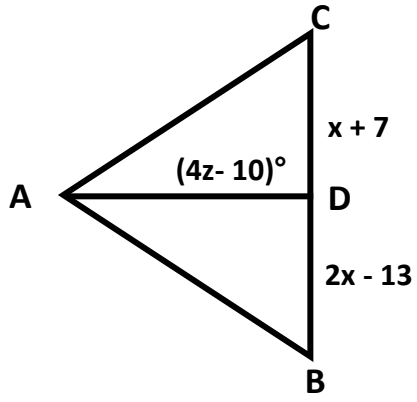
Altitude	BF
Angle Bisector	CZ
Median	JZ
Perpendicular Bisector	DL



Segment	Picture	Problems
		Angle = 90° Sides = each other
		½ Angles = each other Total = 2 (1/2 angle)
		Sides = each other POC is 2/3 from vertex
		Angle = 90° Sum of Δ ∠s = 180

Problems involving Perpendicular Bisectors

AD is a perpendicular bisector find x and z

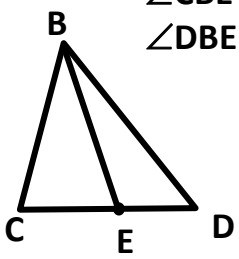


Problems involving Angle Bisectors

BE is an angle bisector, find x and y

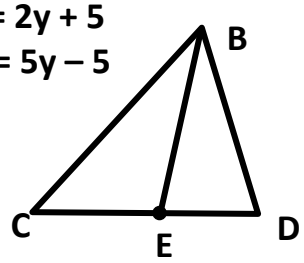
$\angle CBE = 2x + 9$

$\angle DBE = 5x - 9$



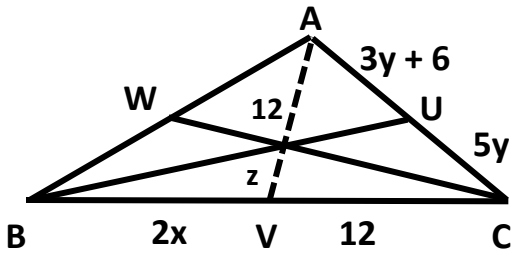
$\angle CBE = 2y + 5$

$\angle CBD = 5y - 5$



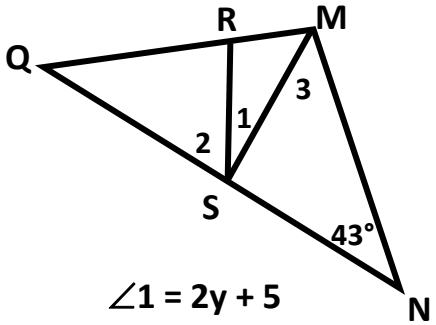
Problems involving Medians

AV, CW and UB are medians, find x, y, and z



Problems involving Altitudes

MS is an altitude, find y, and m$\angle$1, $\angle$2, $\angle$3

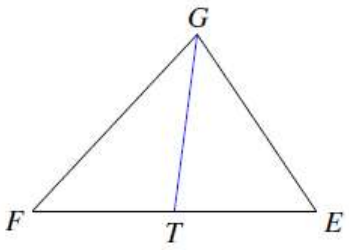


$\angle 1 = 2y + 5$

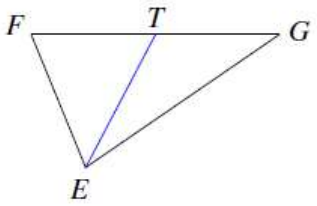
$\angle 2 = 3y + 5$

Each figure shows a triangle with one or more of its medians.

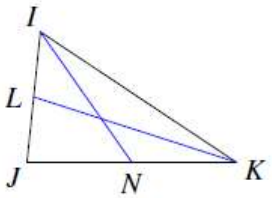
1) Find FE if $TE = 8$



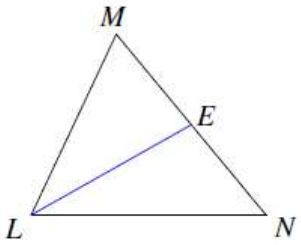
2) Find GF if $TF = 6.3$



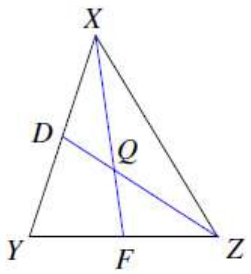
3) Find LJ if $IJ = 6$



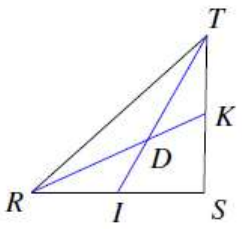
4) Find NM if $EM = 10$



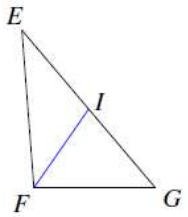
5) Find ZQ if $ZD = 6$



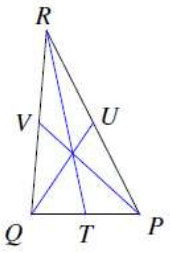
6) Find RK if $DK = 3.4$



11) Find x if $GE = 3x + 5$ and $IE = x + 6$

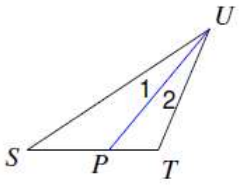


12) Find x if $TP = 2x + 1$ and $TQ = 3x - 5$

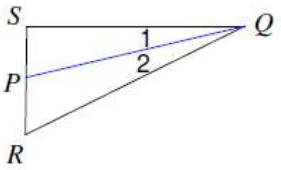


Each figure shows a triangle with one of its angle bisectors.

1) $m\angle SUT = 34°$. Find $m\angle 1$.

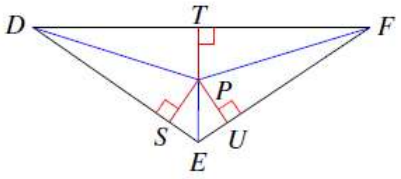


2) Find $m\angle SQR$ if $m\angle 2 = 13°$.

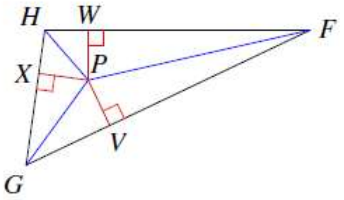


Each figure shows a triangle with its three angle bisectors intersecting at point P.

3) $PT = 3$. Find PU.

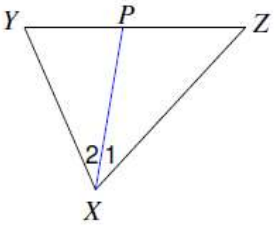


4) Find PV if $PW = 7$.

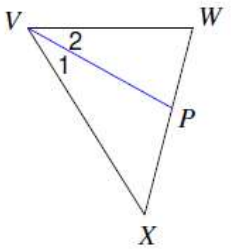


Each figure shows a triangle with one of its angle bisectors.

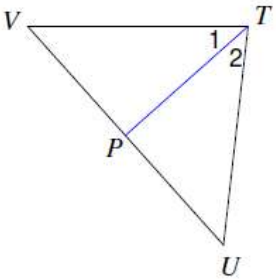
13) Find x if $m\angle 2 = 4x + 5$ and $m\angle 1 = 5x - 2$.



14) Find x if $m\angle 2 = 1 + 28x$ and $m\angle XVW = 59x - 1$.



15) $m\angle 1 = 7x + 7$ and $m\angle VTU = 16x + 4$. Find $m\angle 1$.



16) Find $m\angle 2$ if $m\angle 2 = 7x + 5$ and $m\angle 1 = 9x - 5$.