

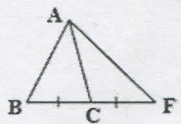
6.1 – 6.3 Day TWO CYU: Median, Altitude, Angle Bisector, & Perpendicular Bisector

Use when you get it right all by yourself
S Use when you did it all by yourself, but made a silly mistake
H Use when you could do it alone with a little help from teacher or peer
G Use when you completed the problem in a group
X Use when a question was attempted but wrong (get help)
N Use when a question was not even attempted

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Identifying special segments	1 - 4		
Drawing special segments	5		
Solving triangles with special segments		6 - 16	16

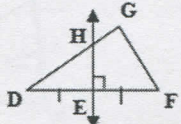
1 – 4: Name the special segment.

1) \overline{AC}



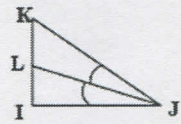
median

2) \overline{HE}



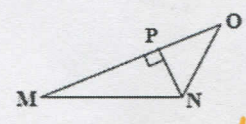
⊥ bisector

3) \overline{JL}



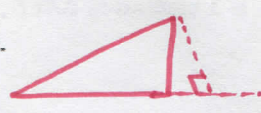
∠ bisector

4) \overline{PN}



altitude

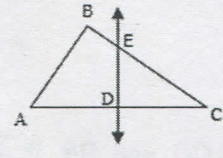
5) Draw a triangle with an altitude outside the triangle.



6 – 9: Solve the triangle for the variables or parts of the triangles.

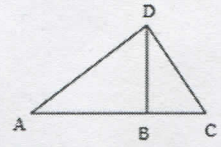
6) In $\triangle ABC$, \overline{DE} is perpendicular bisector of \overline{AC} with D on \overline{AC} . If $AD = 2y + 4$, $CD = y + 12$, and $m\angle EDC = 5(x - 12)^\circ$. Find the value of x and y. Find length of AD, DC , and AC .

$AD = 20, DC = 20, AC = 40$
 $x = 30$
 $y = 8$



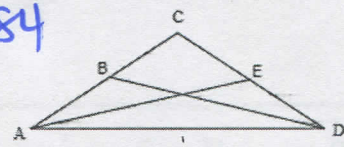
7) \overline{DB} is an altitude of $\triangle ADC$, and $m\angle DBC = (n^2 + 81)^\circ$. Find the value of n.

$n = \pm 3$



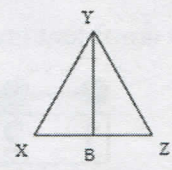
8) \overline{DB} and \overline{AE} are medians. If $BC = 6y + 10$, $AB = y^2 + 3y$, $CE = 6x + 12$, $ED = 2x + 60$, then find the value of x and y, and the length of the segments.

$x = 12$ $AB = 40$ $ED = 84$
 $y = 5$ $BC = 40$
 $CE = 84$



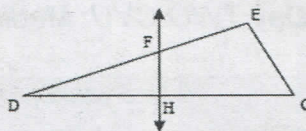
9) \overline{YB} is an altitude of $\triangle XYZ$, and $m\angle YBZ = (6x - 6)^\circ$. Find the value of x. What is the measure of $\angle YBZ$?

$x = 16$
 $m\angle YBZ = 90^\circ$



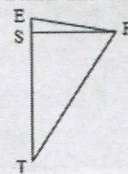
10) In $\triangle DEG$, \overline{FH} is a perpendicular bisector of \overline{DG} with H on \overline{DG} . If $DH = 2y + 3$, $GH = 7y - 42$, and $m\angle FHG = (x^2 + 9)^\circ$, then find the value of x and y. What is the measure of DG ?

$x = \pm 9$
 $y = 9$
 $DG = 42$



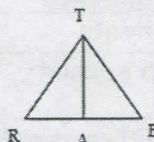
11) \overline{RS} is an altitude of $\triangle RTE$, $m\angle SRT = (4x - 8)^\circ$, and $m\angle STR = (6x + 13)^\circ$. Find the value of x.

$x = 8.5$



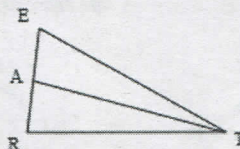
12) In $\triangle RTE$, \overline{TA} bisects $\angle RTE$, $m\angle RTA = (3y - 4)^\circ$, and $m\angle ETA = (4y - 17)^\circ$. Find the measure of $\angle RTE$.

$m\angle RTE = 70^\circ$



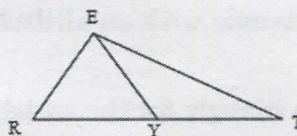
13) \overline{TA} is a median of $\triangle RTE$, $AE = 3x - 11$, and $AR = x + 5$. Find AE , AR , and ER .

$AE = 13$
 $AR = 13$
 $ER = 26$



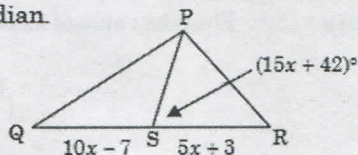
14) \overline{EY} is a median of $\triangle RET$, $RY = 2z - 1$, and $TY = 4z - 11$. Find RT .

$RT = 18$



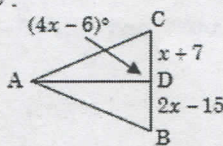
15) Find x and the measure of $\angle PSR$, if \overline{PS} is a median.

$x = 2$
 $m\angle PSR = 72^\circ$



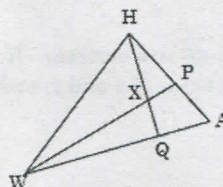
16) Find x, CD , and DB , if \overline{AD} is an altitude of $\triangle ABC$.

$x = 24$
 $CD = 31$
 $DB = 33$



17) $\triangle WHA$, if \overline{WP} is a median and an angle bisector, $AP = 3y + 11$, $PH = 7y - 5$, $m\angle HWP = x + 12$, $m\angle PAW = 3x - 2$, and $m\angle HWA = 4x - 16$, find x and y. Is \overline{WP} also an altitude, explain?

$x = 20$
 $y = 4$
 yes. $m\angle XPH = 90^\circ$



CYU Reflection: How far can you go: basic, intermediate, or advanced?

Rate your mastery level!

How confident are you with the skills this CYU covered? Circle the

● ● ● ● ● ● ●

1	2	3	4	5	6	7	8
Basic		Intermediate			Advanced		Solved ALL!