

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

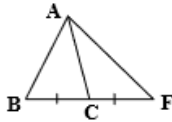
**X** Use when a question was attempted but wrong (get help)

**N** Use when a question was not even attempted

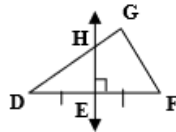
CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
Identifying special segments	1 – 4		
Drawing special segments	5		
Solving triangles with special segments		6 - 16	17

**1 – 4: Name the special segment.**

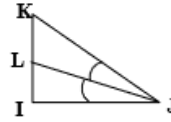
1)  $\overline{AC}$



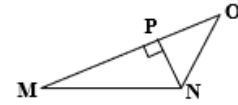
2)  $\overline{HE}$



3)  $\overline{JL}$



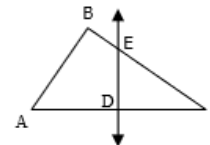
4)  $\overline{PN}$



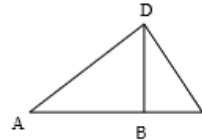
5) Draw a triangle with an altitude outside the triangle.

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

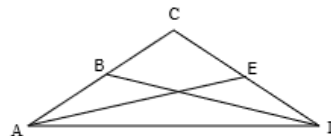
6) In  $\triangle ABC$ ,  $\overline{DE}$  is perpendicular bisector of  $\overline{AC}$  with D on  $\overline{AC}$ . If  $AD = 2y + 4$ ,  $CD = y + 12$ , and  $m\angle EDC = 5(x - 12)^\circ$ . Find the value of x and y. Find length of  $AD, DC$ , and  $AC$ .



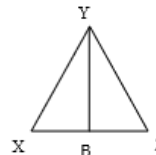
7)  $\overline{DB}$  is an altitude of  $\triangle ADC$ , and  $m\angle DBC = (n^2 + 81)^\circ$ . Find the value of n.



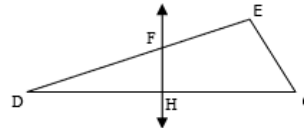
8)  $\overline{DB}$  and  $\overline{AE}$  are medians. If  $BC = 6y + 10$ ,  $AB = y^2 + 3y$ ,  $CE = 6x + 12$ ,  $ED = 2x + 60$ , then find the value of x and y, and the length of the segments.



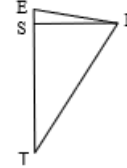
9)  $\overline{YB}$  is an altitude of  $\triangle XYZ$ , and  $m\angle YBZ = (6x - 6)^\circ$ . Find the value of x. What is the measure of  $\angle YBZ$ ?



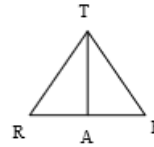
- 10) In  $\triangle DEG$ ,  $\overline{FH}$  is a perpendicular bisector of  $\overline{DG}$  with H on  $\overline{DG}$ . If  $DH = 2y + 3$ ,  $GH = 7y - 42$ , and  $m\angle FHG = (x^2 + 9)^\circ$ , then find the value of x and y. What is the measure of  $DG$ ?



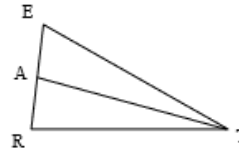
- 11)  $\overline{RS}$  is an altitude of  $\triangle RTE$ ,  $m\angle SRT = (4x - 8)^\circ$ , and  $m\angle STR = (6x + 13)^\circ$ . Find the value of x.



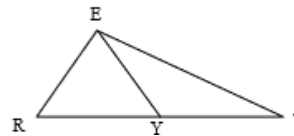
- 12) In  $\triangle RTE$ ,  $\overline{TA}$  bisects  $\angle RTE$ ,  $m\angle RTA = (3y - 4)^\circ$ , and  $m\angle ETA = (4y - 17)^\circ$ . Find the measure of  $\angle RTE$ .



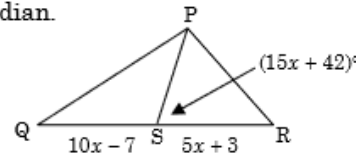
- 13)  $\overline{TA}$  is a median of  $\triangle RTE$ ,  $AE = 3x - 11$ , and  $AR = x + 5$ . Find  $AE$ ,  $AR$ , and  $ER$ .



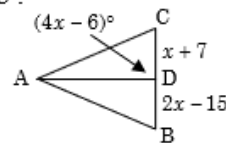
- 14)  $\overline{EY}$  is a median of  $\triangle RET$ ,  $RY = 2z - 1$ , and  $TY = 4z - 11$ . Find  $\overline{RT}$ .



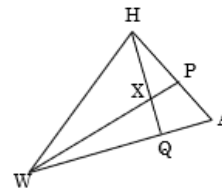
- 15) Find x and the measure of  $\angle PSR$ , if  $\overline{PS}$  is a median.



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



- 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?



**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!

