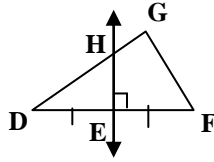Name the special segment for 1-4
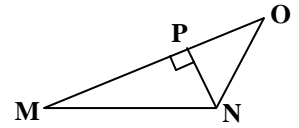
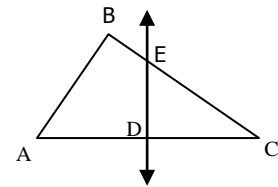1) $\overline{AC}$
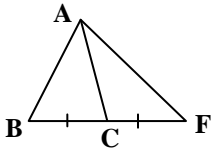
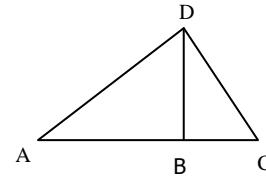2) $\overleftrightarrow{HE}$

3) $\overline{JL}$
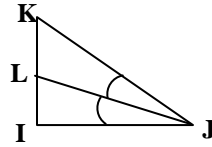
4) $\overline{PN}$

5) Draw a triangle with an altitude outside the triangle.
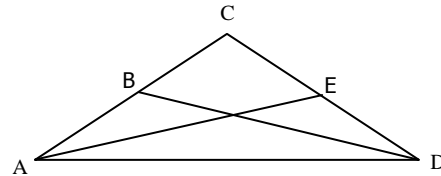
6) In $\triangle ABC$, $\overrightarrow{DE}$ is perpendicular bisector of $\overline{AC}$ with D on $\overline{AC}$. If $AD = 2y + 4$, $CD = y + 12$, and $m\angle EDC = 5(x-12)°$. Find the value of x and y. Find length of AD, DC, and, AC.
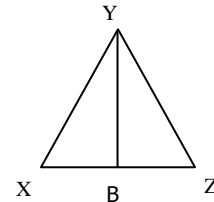
7) $\overline{DB}$ is an altitude of $\triangle ADC$, and $m\angle DBC = (n^2 + 81)°$. Find the value of n.

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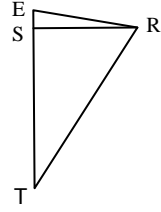
9) $\overline{YB}$ is an altitude of $\triangle XYZ$, and $m\angle YBZ = (6x - 6)°$. Find the value of x. What is the measure of $\angle YBZ$?

10) In $\triangle DEG$ $\overrightarrow{FH}$ is a perpendicular bisector of $\overline{DG}$ with H on $\overline{DG}$. If $DH = 2y + 3$, $GH = 7y - 42$, and $m\angle FHG = (x^2 + 9)°$, then find the value of x and y. What is the measure of $\overline{DG}$?
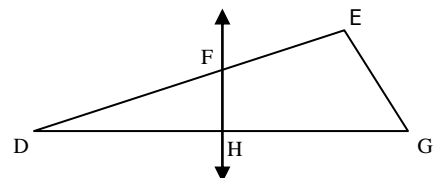
11) $\overline{RS}$ is an altitude of $\triangle RTE$, $m\angle SRT = (4x - 8)°$, and $m\angle STR = (6x + 13)°$. Find the value of x.

12) In $\triangle RTE$, $AE = 3x - 11$, $AR = x + 5$, $RY = 2z - 1$, $AE = 4z - 11$, $m\angle RTA = 4y - 17$, $m\angle ATE = 3y - 4$, and $m\angle RST = 2x + 10$.

a. $\overline{RS}$ is an altitude of $\triangle RTE$. Find the value of x.

b. If $\overline{TA}$ is an angle bisector or $\angle RTE$, find $m\angle RTA$.

c. $\overline{EY}$ is a median of $\triangle RTE$. Find RT