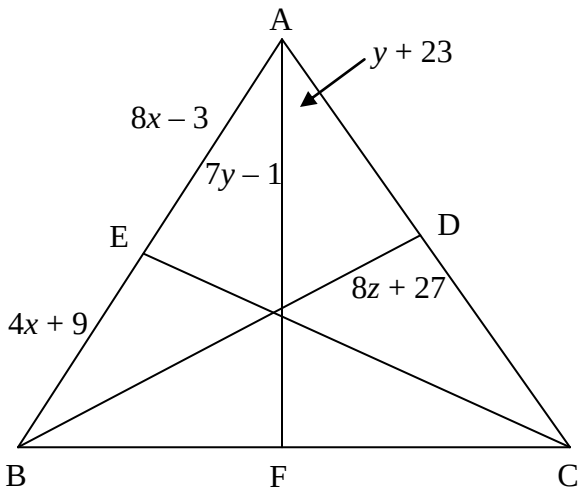
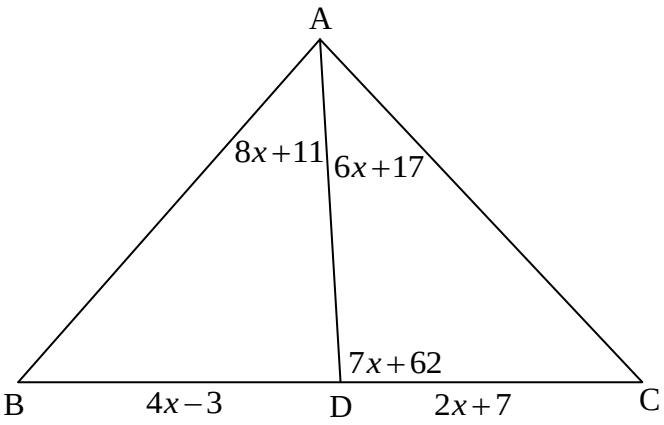
Name_____Per._____Date_____
Geometry 5.1-5.2 worksheet

1. In the following figure ΔABC, $\overline{AF}$ is an ∠ bisector, $\overline{BD}$ is an altitude, and $\overline{CE}$ is a median. Find *x*, *y*, and *z*.

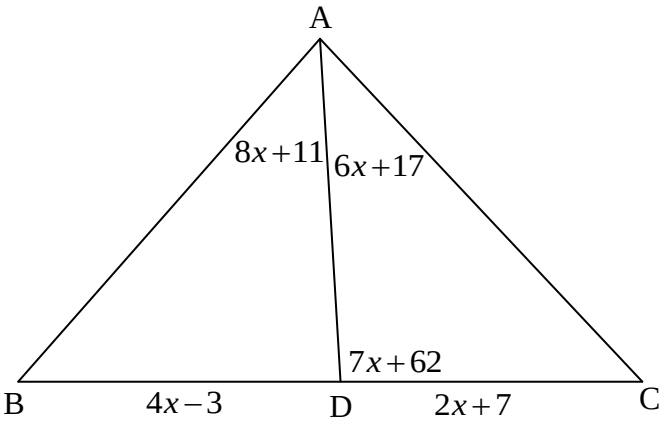


2. Given ΔDEF with $\overline{EG}$ as an altitude and DG = 2*x* + 1, *m*∠DEG = 9*x* + 5, *m*∠EGF = 19*x* + 14, GF = 3*x* – 2, and *m*∠GEF = 11*x* – 1.
Find *x*.

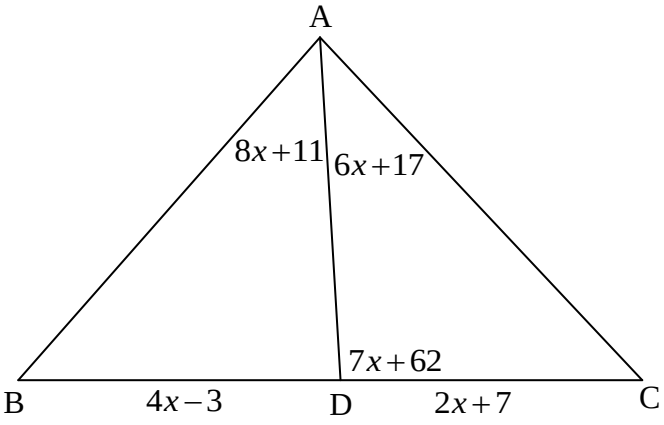
3. Find x if $\overline{AD}$ is a median of ΔABC.



4. Find x if $\overline{AD}$ is an altitude of ΔABC.



5. Find x if $\overline{AD}$ is an $\angle$ bisector of ΔABC.



For problems 6-9, ΔABC is on the coordinate plane with vertices having the following coordinates: $A(2,5), B(12,-1)$ and $C(-6,8)$.

6. Find the coordinates of K if $\overline{CK}$ is a median of ΔABC.

7. What is the slope of the perpendicular bisector of $\overline{AB}$?

8. What is the slope of the altitude drawn to $\overline{AC}$?

9. Point N is on $\overline{BC}$ and has the coordinates $\left(\frac{8}{5}, \frac{21}{5}\right)$. Is $\overline{AN}$ an altitude of ΔABC? Explain your answer.