LESSON 5.3

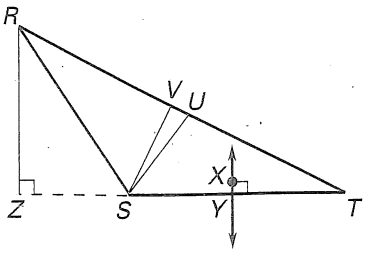
NAME _____ DATE _____

# Practice C

**For use with pages 279–285**

**Use the diagram shown and the given information to name each segment as one of the special segments of a triangle.**

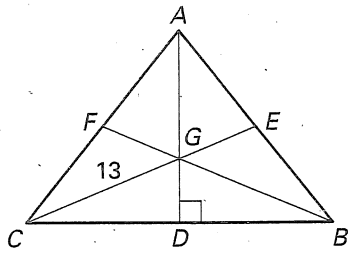
$m\angle RSV = m\angle TSV$, $RU = UT$ and $\overline{SY} \cong \overline{TY}$




1. $\overline{RZ}$
2. $\overline{SV}$
3. $\overline{SU}$
4. $\overline{XY}$

**Use the figure shown and the given information.**

$G$ is the centroid of $\triangle ABC$, $AD = 15$, $CG = 13$, and $\overline{AD} \perp \overline{CB}$.

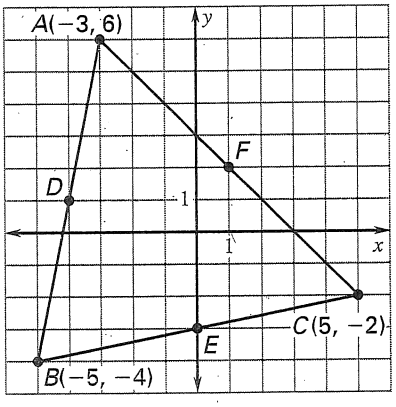



5. Find the length of $\overline{AG}$.
6. Find the length of $\overline{GD}$.
7. Find the length of $\overline{CD}$.
8. Find the length of $\overline{GE}$.
9. Find the length of $\overline{GB}$.
10. Find the perimeter of $\triangle ABC$.

**Complete the following sentences with *always, sometimes,* or *never.***

11. The centroid of a triangle is __?__ the circumcenter of the triangle.
12. The altitude from the vertex angle of an isosceles triangle is __?__ the median.
13. The median to any side of an equilateral triangle is __?__ the angle bisector.
14. The altitudes of an acute triangle __?__ intersect outside the triangle.

**Use the graph shown.**




15. Find the coordinates of $D$, the midpoint of $\overline{AB}$.
16. Find the length of the median $\overline{CD}$.
17. Determine the equation $\overleftrightarrow{CD}$.
18. Find the coordinates of the centroid. Label this point as $G$.
19. Find the coordinates of $E$, the midpoint of $\overline{CB}$. Determine the equation $\overleftrightarrow{AE}$.
20. Show that the quotient $\frac{AG}{AE} = \frac{2}{3}$.
21. Determine the point of intersection of $\overleftrightarrow{CD}$ and $\overleftrightarrow{AE}$. Is your point of intersection $G$?