

## 5.3 Practice A

### Medians and Altitudes of Triangles

Fill in the blanks to complete each definition.

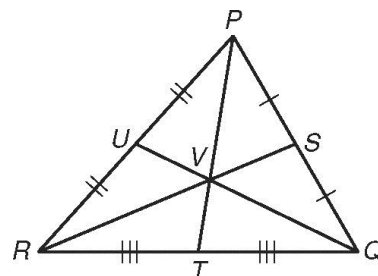
1. A median of a triangle is a segment whose endpoints are a vertex of the triangle and the \_\_\_\_\_ of the opposite side.
2. An altitude of a triangle is a \_\_\_\_\_ segment from a vertex to the line containing the opposite side.
3. The centroid of a triangle is the point where the three \_\_\_\_\_ are concurrent.
4. The orthocenter of a triangle is the point where the three \_\_\_\_\_ are concurrent.

Use the Centroid Theorem and the figure for Exercises 5–8.

$\overline{QU}$ ,  $\overline{RS}$ , and  $\overline{PT}$  are medians of  $\triangle PQR$ .  $RS = 21$  and  $VT = 5$ .

Find each length.

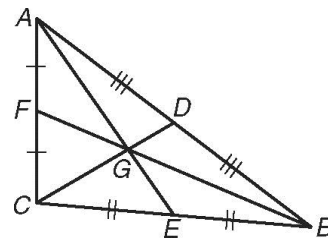
- |               |               |
|---------------|---------------|
| 5. $RV$ _____ | 6. $SV$ _____ |
| 7. $TP$ _____ | 8. $VP$ _____ |



Use the figure for Exercises 9–12.  $GB = 12$  and  $CD = 12$ .

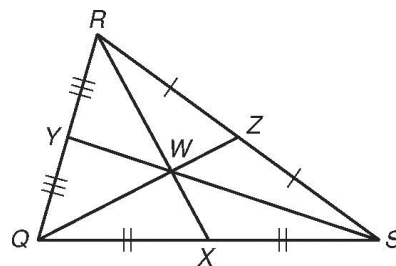
Find each length.

- |                |                |
|----------------|----------------|
| 9. $FG$ _____  | 10. $BF$ _____ |
| 11. $GD$ _____ | 12. $CG$ _____ |



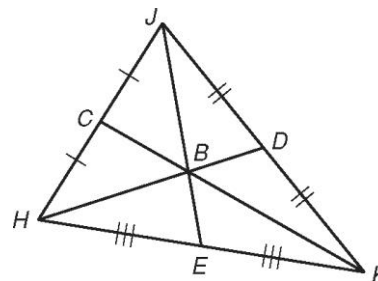
In  $\triangle QRS$ ,  $RX = 48$  and  $QW = 30$ . Find each length.

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|----------------|----------------|
| 13. $RW$ _____ | 14. $WX$ _____ |
| 15. $QZ$ _____ | 16. $WZ$ _____ |

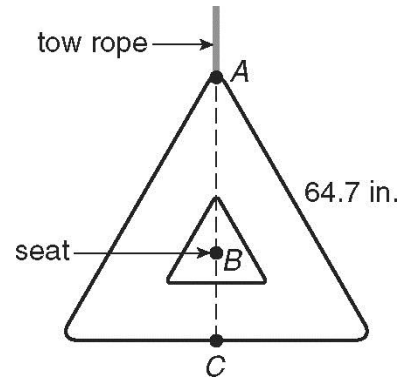


In  $\triangle HJK$ ,  $HD = 21$  and  $BK = 18$ . Find each length.

- |                |                |
|----------------|----------------|
| 17. $HB$ _____ | 18. $BD$ _____ |
| 19. $CK$ _____ | 20. $CB$ _____ |

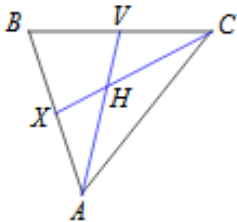


21. An inflatable triangular raft is towed behind a boat. To maintain balance, the seat is at the centroid  $B$  of the triangle. What is  $AB$ , the distance from the seat to the tow rope if the  $AC = 56$  in.? Round to the nearest tenth.

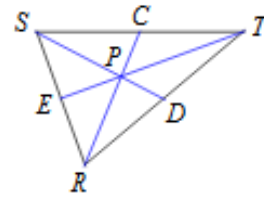


**Each figure shows a triangle with one or more of its medians.**

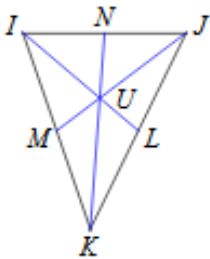
- 22) Find  $HV$  if  $AH = 6$



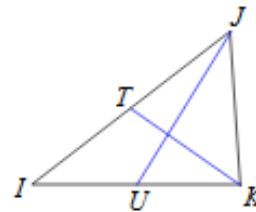
- 23) Find  $RP$  if  $PC = 2$



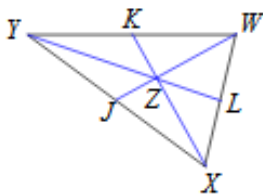
- 24) Find  $JM$  if  $UM = 4$



- 25) Find  $UK$  if  $IK = 7.6$



- 26) Find  $YL$  if  $ZL = 15$



- 27) Find  $DH$  if  $LD = 28.2$

