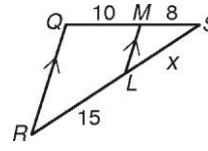


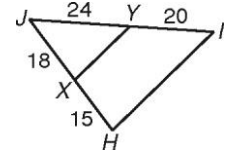
**Module 12.1 & 12.2**

**For Problems 1–4, answer the questions to find the length  $x$ .**



1. What does the diagram tell you about  $\overline{RQ}$  and  $\overline{LM}$ ? \_\_\_\_\_
2. What is the ratio of  $MS$  to  $QM$ ? \_\_\_\_\_
3. Write a proportion to solve for  $x$ . \_\_\_\_\_
4. Solve the proportion. What is the value of  $x$ ? \_\_\_\_\_

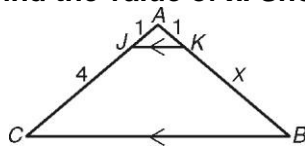
**Complete Problems 5–7 to determine whether  $\overline{HI} \parallel \overline{XY}$ .**



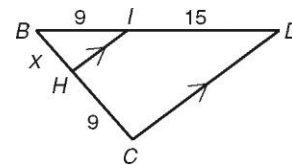
5. Find the ratio.  $\frac{JX}{XH} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$
6. Find the ratio.  $\frac{JY}{YI} = \frac{\quad}{\quad} = \frac{\quad}{\quad}$
7. If the ratios in Problems 5 and 6 are equal, then sides  $\overline{HJ}$  and  $\overline{IJ}$  are divided proportionally. If the sides are proportional, then  $\overline{HI}$  is parallel to  $\overline{XY}$ . Is  $\overline{HI}$  parallel to  $\overline{XY}$ ? If so, what reason can you give?  
\_\_\_\_\_

**For Problems 8–11, find the value of  $x$ . Show work.**

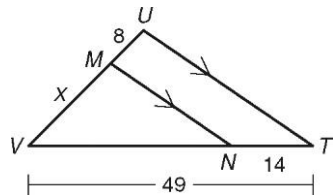
8.  $x =$  \_\_\_\_\_



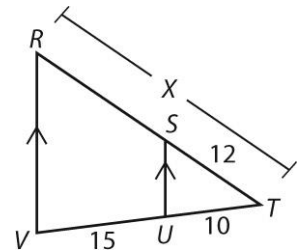
9.  $x =$  \_\_\_\_\_



10.  $x =$  \_\_\_\_\_

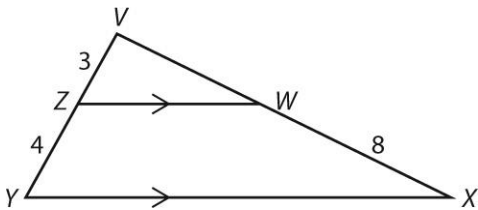


11.  $x =$  \_\_\_\_\_

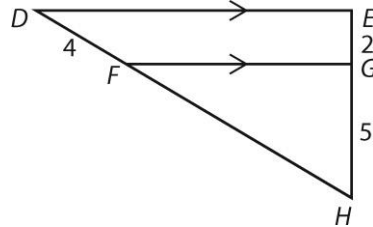


**Find the missing lengths in each of the figures. Show work.**

12.  $VW =$  \_\_\_\_\_

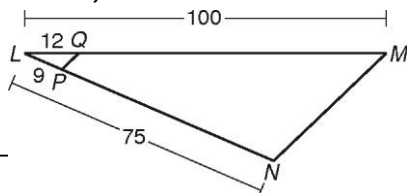


13.  $HF =$  \_\_\_\_\_



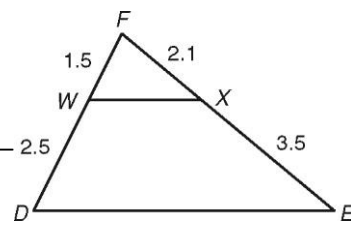
**For Problems 14 and 15, determine whether the given segments are parallel. Show Work.**

14.  $\overline{PQ}$  and  $\overline{NM}$



\_\_\_\_\_  
\_\_\_\_\_

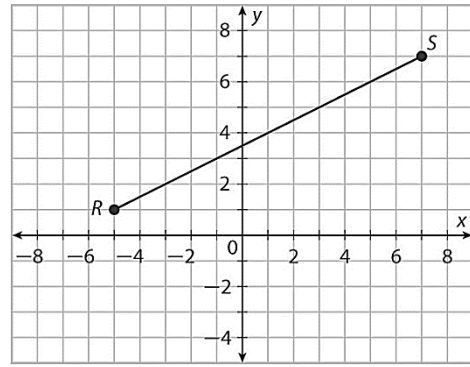
15.  $\overline{WX}$  and  $\overline{DE}$



\_\_\_\_\_  
\_\_\_\_\_

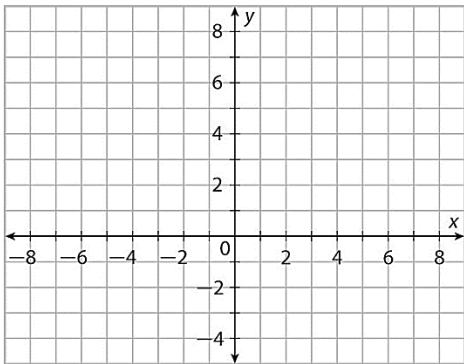
Answer the questions in order to determine the point **Q** that subdivides segment **RS** into a ratio of 2 to 1.

16. How many parts will the line be divided into? \_\_\_\_\_
17. What is the run? \_\_\_\_\_
18. What is the rise? \_\_\_\_\_
19. Point **Q** is \_\_\_\_\_ distance from point **R** to point **S**.
20. What are the coordinates of the point **Q** that subdivides **RS** into a ratio of 2 to 1? \_\_\_\_\_



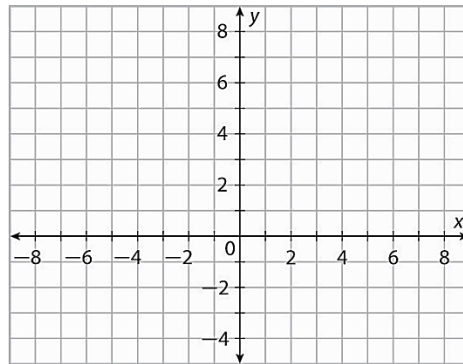
Find the coordinates of point **Q** that subdivides the segment with the given endpoints into two sub-segments with the given ratio. In each case, graph both the segment and the point **Q**. Show work.

21. endpoints:  $A(-4, -2)$ ,  $B(1, 8)$   
ratio: 4 to 1



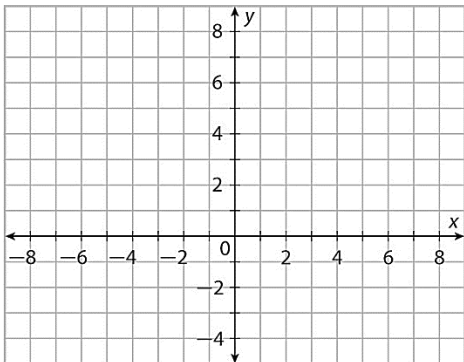
**Q** (\_\_\_\_\_, \_\_\_\_\_)

22. endpoints:  $S(-6, 6)$ ,  $T(6, -2)$   
ratio: 1 to 3



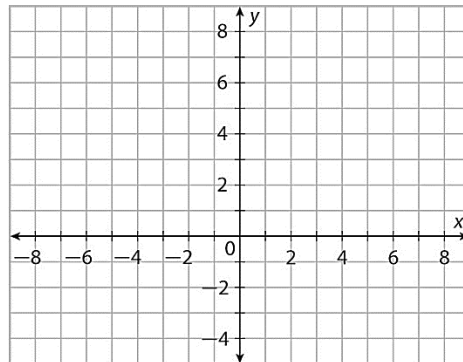
**Q** (\_\_\_\_\_, \_\_\_\_\_)

23. endpoints:  $G(-3, -4)$ ,  $Z(0, 8)$   
ratio: 2 to 1



**Q** (\_\_\_\_\_, \_\_\_\_\_)

24. endpoints:  $J(-7, 2)$ ,  $K(8, -3)$   
ratio: 2 to 3



**Q** (\_\_\_\_\_, \_\_\_\_\_)