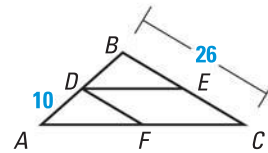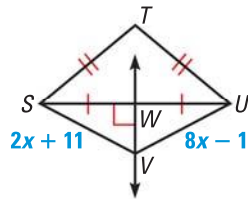# CHAPTER TEST

Two midsegments of $\triangle ABC$ are $\overline{DE}$ and $\overline{DF}$.

1. Find DB.
2. Find DF.
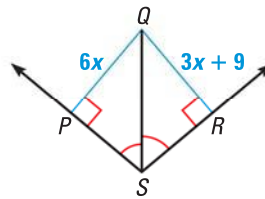3. What can you conclude about $\overline{EF}$?

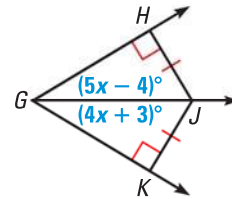**Find the value of x. _Explain_ your reasoning.**
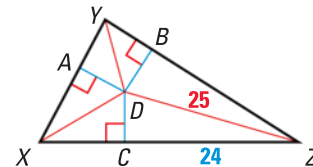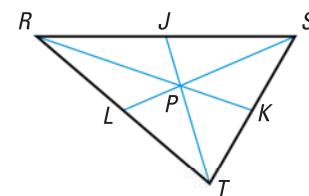
4.

5.

6.

7. In Exercise 4, is point T on the perpendicular bisector of $\overline{SU}$? _Explain_.

8. In the diagram at the right, the angle bisectors of $\triangle XYZ$ meet at point D. Find DB.

**In the diagram at the right, P is the centroid of $\triangle RST$.**

9. If $LS = 36$, find PL and PS.

10. If $TP = 20$, find TJ and PJ.

11. If $JR = 25$, find JS and RS.

12. Is it possible to construct a triangle with side lengths 9, 12, and 22? If not, _explain_ why not.

13. In $\triangle ABC$, $AB = 36$, $BC = 18$, and $AC = 22$. Sketch and label the triangle. List the angles in order from smallest to largest.

In the diagram for Exercises 14 and 15, $JL = MK$.

14. If $m\angle JKM > m\angle LJK$, which is longer, $\overline{LK}$ or $\overline{MJ}$? _Explain_.

15. If $MJ < LK$, which is larger, $\angle LJK$ or $\angle JKM$? _Explain_.

16. Write a temporary assumption you could make to prove the conclusion indirectly: _If $RS + ST \neq 12$ and $ST = 5$, then $RS \neq 7$._
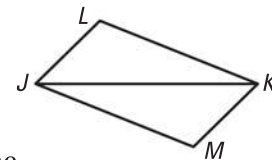
Use the diagram in Exercises 17 and 18.

17. _Describe_ the range of possible distances from the beach to the movie theater.

18. A market is the same distance from your house, the movie theater, and the beach. Copy the diagram and locate the market.