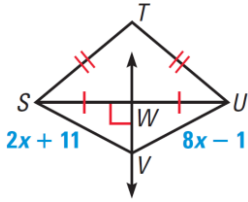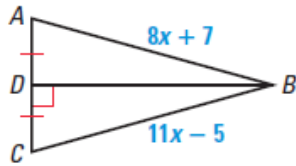## Geometry Chapter 6 Review
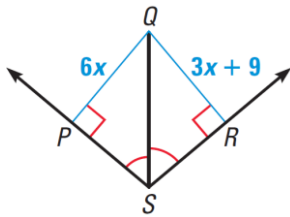
Find the value of x.
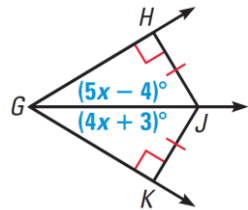

1.

2.
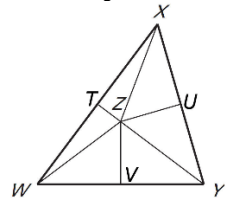

3.

4.

In the diagram, the perpendicular bisectors of △WXY meet at point Z. Find the indicated measure.
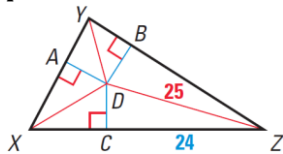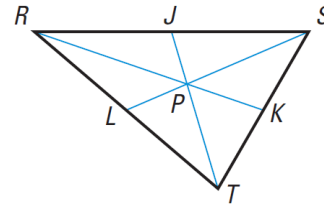

XZ = 42
ZV = 31
WT = 35

5. Find YZ.
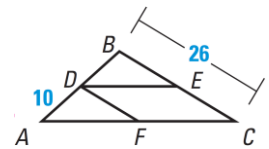
6. Find TX.

In the diagram, the angle bisectors of △XYZ meet at point D.
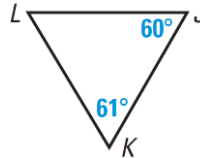

7. Find CD.

8. Find AD.

P is the centroid of △RST.

9. If LS = 36, find PL.

10. If TP = 20, find TJ.

11. Where is the orthocenter on an acute triangle? Right triangle? Obtuse triangle?

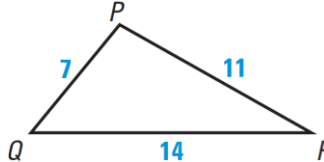**Two midsegments of △ABC are $\overline{DE}$ and $\overline{DF}$.**

12. Find DB.

13. Find DF.

14. If $DE = 12$ and $AC = 2x$, find the value of x.

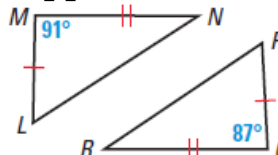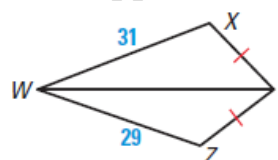15. Which side is longest?

16. Which angle is largest?

17. A triangle has one side length of 9 and another of 8. Describe the possible lengths of the third side.

18. Write a temporary assumption you could make to prove the conclusion indirectly: If $RS + ST \neq 12$ and $ST = 5$, then $RS \neq 7$.

Copy and complete with >, < or =.

19. LN _?_ PR

20. $m\angle WYX$ _?_ $m\angle WYZ$

Name: _____

21. Two boats leave the port. Boat A sails 50 miles due south then turns 20° towards the west and sails 10 more miles. Boat B sails 50 miles due north and then turns 30° towards the east and sails 10 more miles. Which boat is farther from the port?

Answers

1. 2
2. 4
3. 3
4. 7
5. 42
6. 35
7. 7
8. 7
9. 12
10. 30
11. Inside triangle; on right angle of triangle; outside triangle
12. 10
13. 13
14. 12
15. $\overline{LJ}$
16. $\angle P$
17. $1 < x < 17$
18. $RS = 7$
19. >
20. >
21. Boat A (From the hinge theorem. The angle inside the triangle is 160° compared to 150° for boat B.)