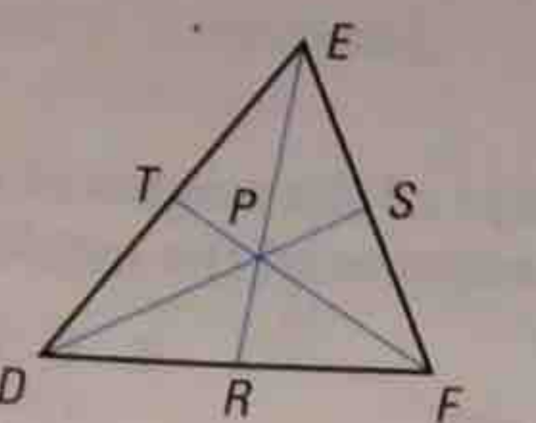
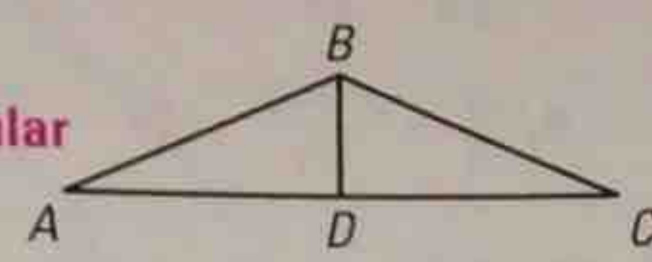
5.4 P is the centroid of $\triangle DEF$, $FP = 14$, $RE = 24$, and $PS = 8.5$. Find the length of the segment.

24. $\overline{TF}$ 21
25. $\overline{DP}$ 17
26. $\overline{DS}$ 25.5
27. $\overline{PR}$ 8



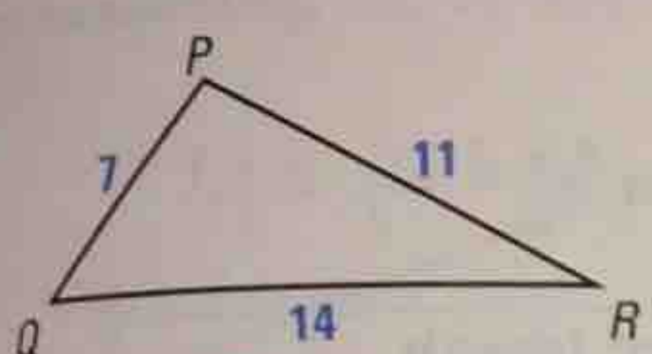
5.4 Use the diagram shown and the given information to decide whether $\overline{BD}$ is a *perpendicular bisector*, an *angle bisector*, a *median*, or an *altitude* of $\triangle ABC$.

28. $\overline{BD} \perp \overline{AC}$ altitude
29. $\angle ABD \cong \angle CBD$ angle bisector
30. $\overline{AD} \cong \overline{CD}$ median
31. $\overline{BD} \perp \overline{AC}$ and $\overline{AD} \cong \overline{CD}$ perpendicular bisector
32. $\triangle ABD \cong \triangle CBD$ perpendicular bisector and angle bisector
33. $\overline{BD} \perp \overline{AC}$ and $\overline{AB} \cong \overline{CB}$ perpendicular bisector, angle bisector, median, and altitude



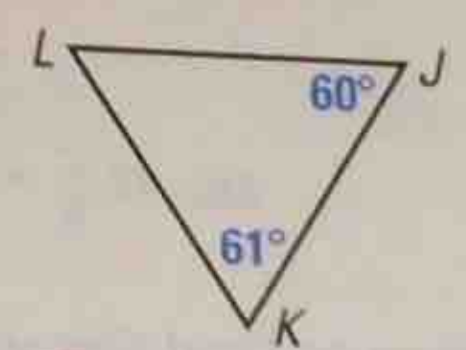
5.5 List the sides and angles in order from smallest to largest.

34.



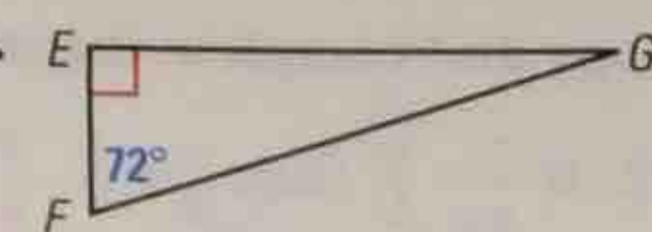
$\overline{QP}, \overline{PR}, \overline{QR}, \angle R, \angle Q, \angle P$

35.



$\overline{JK}, \overline{LK}, \overline{JL}, \angle L, \angle J, \angle K$

36.



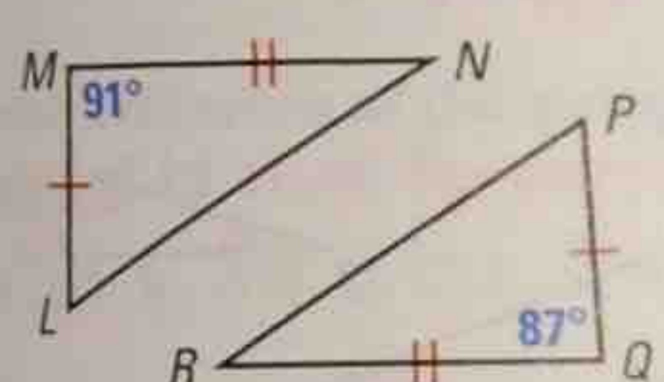
$\overline{EF}, \overline{EG}, \overline{FG}, \angle G, \angle F, \angle E$

5.5 *Describe* the possible lengths of the third side of the triangle given the lengths of the other two sides.

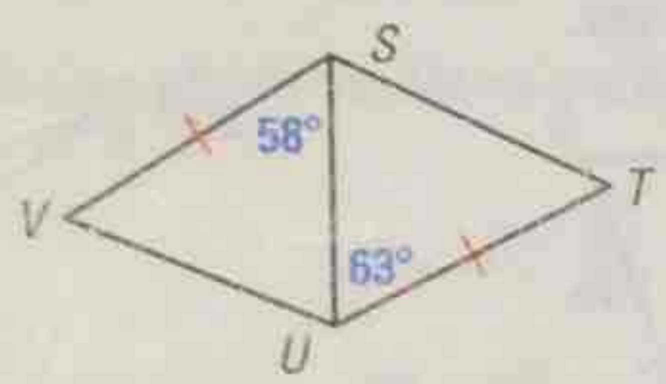
37. 9 inches, 8 inches $1 \text{ in.} < \ell < 17 \text{ in.}$
38. 24 feet, 13 feet $11 \text{ ft} < \ell < 37 \text{ ft}$
39. 3 inches, 9 inches $6 \text{ in.} < \ell < 12 \text{ in.}$
40. 1 foot, 17 inches $5 \text{ in.} < \ell < 29 \text{ in.}$
41. 4 feet, 2 yards $2 \text{ ft} < \ell < 10 \text{ ft}$
42. 2 yards, 6 feet $0 \text{ ft} < \ell < 12 \text{ ft}$

5.6 Copy and complete with $>$, $<$ or $=$. *Explain.* 43–51. See margin.

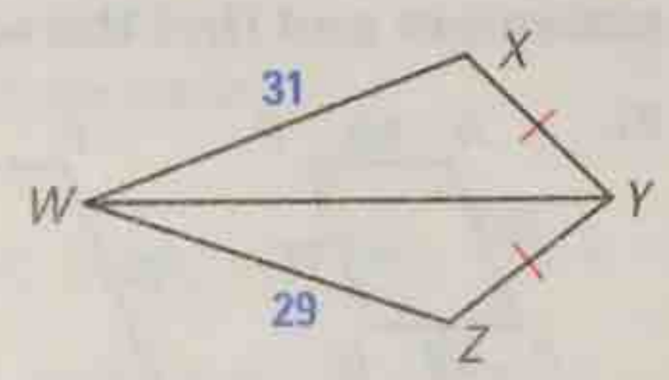
43. LN _?_ PR



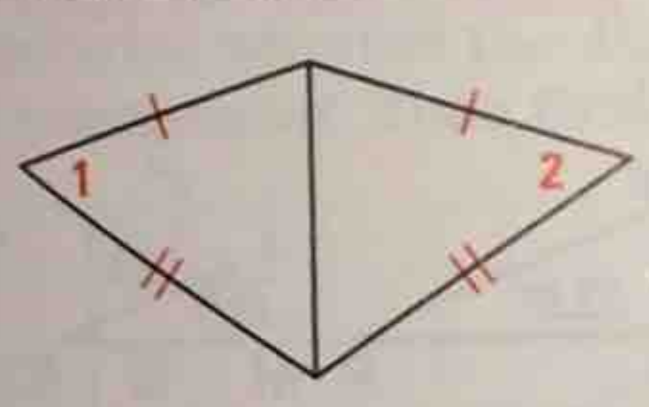
44. VU _?_ ST



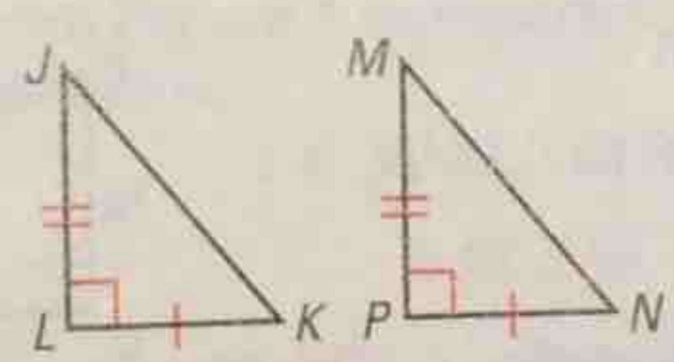
45. $m\angle WYX$ _?_ $m\angle WYZ$



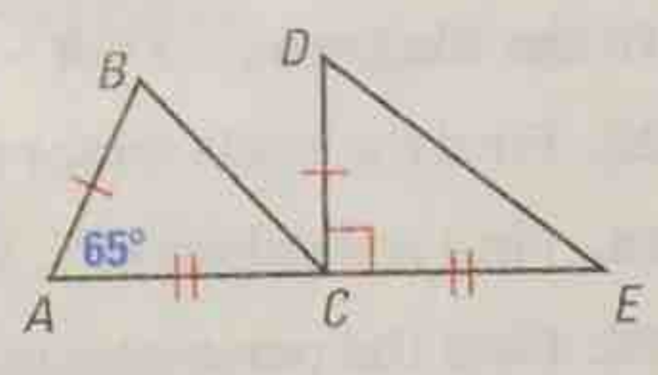
46. $m\angle 1$ _?_ $m\angle 2$



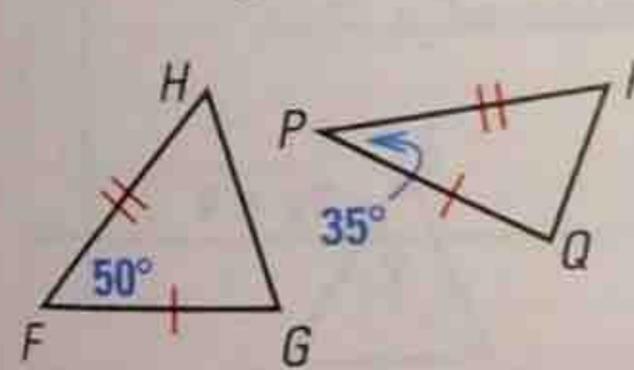
47. JK _?_ MN



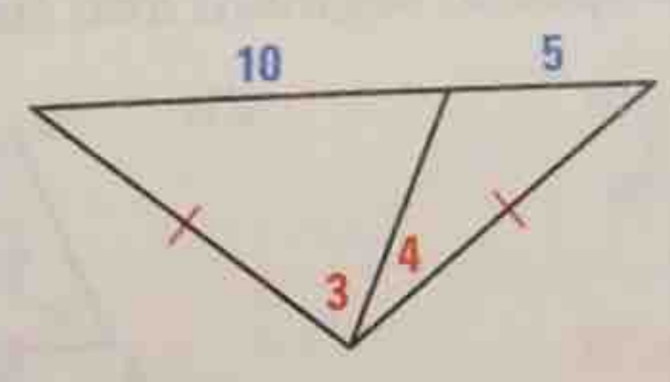
48. BC _?_ DE



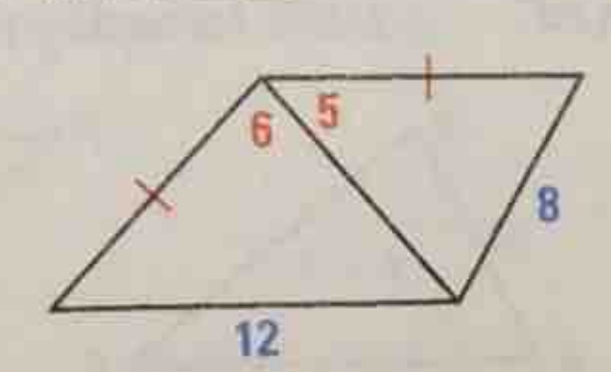
49. GH _?_ QR



50. $m\angle 3$ _?_ $m\angle 4$



51. $m\angle 5$ _?_ $m\angle 6$



43. >; if two sides of one triangle are congruent to two sides of another triangle, and the included angle of the first is larger than the included angle of the second, then the third side of the first is longer than the third side of the second (Hinge Theorem).

44. <; if two sides of one triangle are congruent to two sides of another triangle, and the included angle of the first is larger than the included angle of the second, then the third side of the first is longer than the third side of the second (Hinge Theorem).

45. >; if two sides of one triangle are congruent to two sides of another triangle, and the third side of the first is longer than the third side of the second, then the included angle of the first is larger than the included angle of the second (Converse of the Hinge Theorem).

46. =; with the reflexive side, all three pairs of corresponding sides are congruent, so the triangles are congruent by the SSS Congruence Postulate, and corresponding parts of congruent triangles are congruent.

47. =; the triangles are congruent by the SAS Congruence Postulate, and corresponding parts of congruent triangles are congruent.

48. <; if two sides of one triangle are congruent to two sides of another triangle, and the included angle of the first is larger than the included angle of the second, then the third side of the first is longer than the third side of the second (Hinge Theorem).

49. >; if two sides of one triangle are congruent to two sides of another triangle, and the included angle of the first is larger than the included angle of the second, then the third side of the first is longer than the third side of the second (Hinge Theorem).

50. >; if two sides of one triangle are congruent to two sides of another triangle, and the third side of the first is longer than the third side of the second, then the included angle of the first is larger than the included angle of the second (Converse of the Hinge Theorem).

51. <; if two sides of one triangle are congruent to two sides of another triangle, and the third side of the first is longer than the third side of the second, then the included angle of the first is larger than the included angle of the second (Converse of the Hinge Theorem).