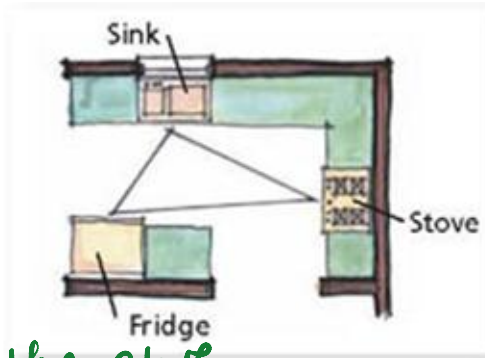
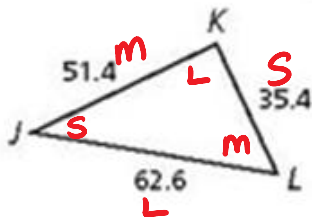


15. **Design** The refrigerator, stove, and sink in a kitchen are at the vertices of a path called the work triangle.
- If the angle at the sink is the largest, which side of the work triangle will be the longest?
 - The designer wants the longest side of this triangle to be 9 feet long. Can the lengths of the other sides be 5 feet and 4 feet? Explain.



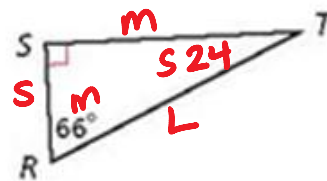
- a) The length from the fridge to the stove
 b) $4 + 5 \not> 9$ No, because the sum of 2 sides is not greater than the 3rd

18. Write the angles in order from smallest to largest.



$$m\angle J < m\angle L < m\angle K$$

19. Write the sides in order from shortest to longest.



$$\overline{SR} < \overline{ST} < \overline{RT}$$

Tell whether a triangle can have sides with the given lengths. Explain.

20. 6, 10, 15

$$6 + 10 > 15$$

$$16 > 15 \checkmark$$

YES! The sum of the 2 smaller sides is greater than the 3rd side

21. 14, 18, 32

$$14 + 18 > 32$$

$$32 \not> 32$$

NO! The sum of 2 smaller sides is not greater than 3rd side.

The lengths of two sides of a triangle are given. Find the range of possible lengths for the third side.

27. 28 km, 23 km

$$28 - 23 < x < 28 + 23$$

$$5 \text{ km} < x < 51 \text{ km}$$

28. 9.2 cm, 3.8 cm

$$9.2 - 3.8 < x < 9.2 + 3.8$$

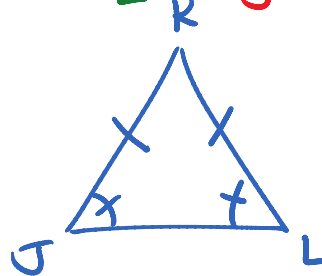
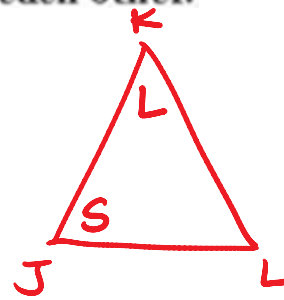
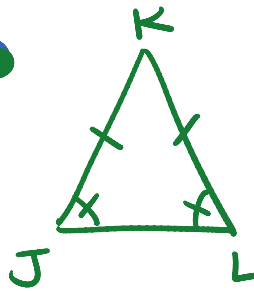
$$5.4 \text{ cm} < x < 13$$

In each set of statements, name the two that contradict each other.

38. $\triangle JKL$ is isosceles with base \overline{JL} .

In $\triangle JKL$, $m\angle K > m\angle J$.

In $\triangle JKL$, $JK > LK$.



IF $\triangle JKL$ IS ISOS W/
base \overline{JL} , then \overline{JK} and
 \overline{LK} are \cong , b/c they
are the legs of the \triangle !

48. $m\angle ABE > m\angle BEA$

49. $m\angle CBE > m\angle CEB$

50. $m\angle DCE = m\angle DEC$

51. $m\angle DCE < m\angle CDE$

52. $m\angle ABE < m\angle EAB$

53. $m\angle EBC = m\angle ECB$

