

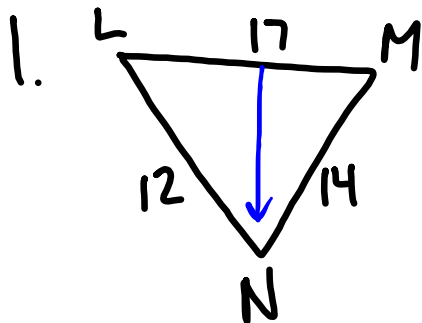
4.7 Triangle Inequalities

Objective: Use triangle measurements to decide which side is longest and which angle is largest.

Theorem: If one side of a triangle is longer than another side, then the angle opposite the longer side is larger than the angle opposite the shorter side.

Theorem: If one angle of a triangle is larger than another angle, then the side opposite the larger angle is longer than side opposite the smaller angle.

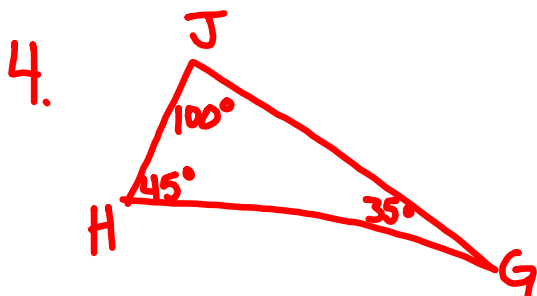
Checkpoint in the middle of page 213.



$\angle N, \angle L, \angle M$

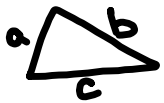
2. $\angle Q, \angle R, \angle P$

3. $\angle U, \angle S, \angle T$



$\overline{HG}, \overline{JG}, \overline{JH}$

Triangle Inequality Theorem: The sum of the lengths of any two sides of a triangle is greater than the length of the third side.



$$a + b > c$$

$$a + c > b$$

$$b + c > a$$

Checkpoint in the middle of page 214.

$$7. 5, 7, 13$$

$$5 + 7 > 13 \quad X$$

not a \triangle

$$8. 6, 9, 12$$

$$6 + 9 > 12 \quad \checkmark$$

$$6 + 12 > 9 \quad \checkmark$$

$$9 + 12 > 6 \quad \checkmark$$

is a \triangle

Name

4.7

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