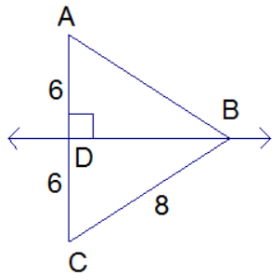
5.1, 5.3, 5.5 REVIEW - E

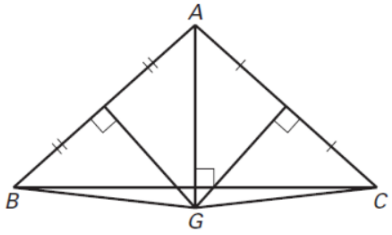
name_____hr___

1. Find AB.

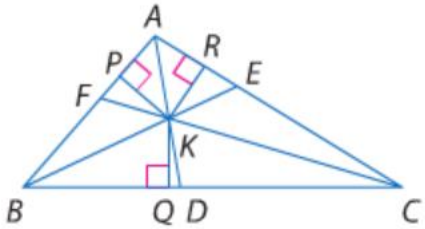


2. Point G is the circumcenter of △ABC.

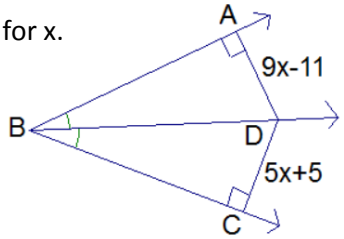
Name a segment congruent to $\overline{GB}$.



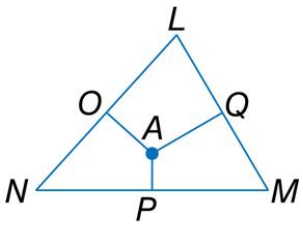
3. Point K is the incenter of △ABC. Name a segment congruent to $\overline{RK}$.



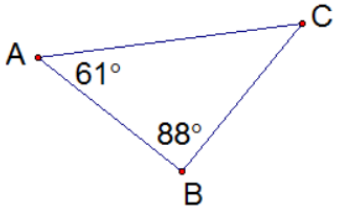
4. Solve for x.



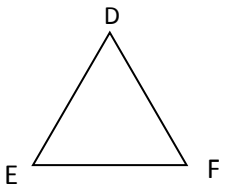
5. In the figure, A is the circumcenter of ⊿LMN. Find r if AN = r^2 - 11 and AM = 9r + 11



6. In the drawing, $m\angle A = 61°$ and $m\angle B = 88°$. Which is the shortest side of the triangle?

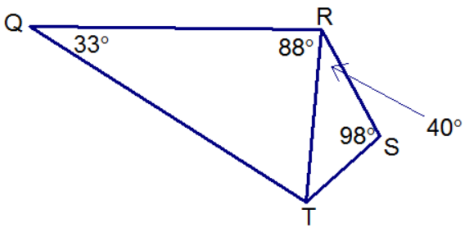


7. In ΔDEF, $DE = 8$ inches, $EF = 14$ inches, and $DF = 5$ inches. Which lists the angles in order from smallest to largest?

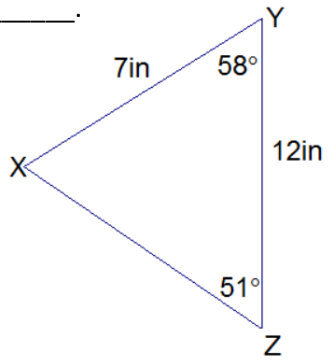


Note: triangle is not drawn to scale

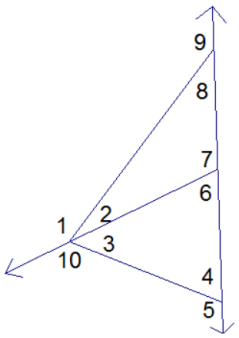
8. List the sides in order from shortest to longest.



9. Bob made these measurements on ΔXYZ. $\overline{XZ}$ must be _____.



10. Name an angle that will have a measure less than the measure of angle 10.



11. If the measures of two sides of a triangle are 19 yards and 15 yards, then the measure of the third side must be greater than _____.

12. Which pipe lengths could be joined to form a triangle?

A. 100ft, 40ft, 55ft

B. 24ft, 28ft, 51ft

C. 13ft, 17ft, 30ft

D. 5ft, 2ft, 3ft

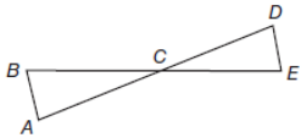
E. 25ft, 10ft, 17ft

13. Is it possible to form a triangle with the given side lengths? If not, explain why not.

33 in, 17 in, 16 in

14. Find the range for the measure of the third side of a triangle if two sides measure 21 and 18.

15. If the measures of two sides of a triangle are 33 yards and 22 yards, what is the least possible measure of the third side if the measure is an integer?



16.

Complete the following proof.

Given: $\triangle ABC \cong \triangle DEC$

Prove: $AB + DE > AD - BE$

Proof:

Statements	Reasons
1. $\triangle ABC \cong \triangle DEC$	1. Given
2. $AB + BC > AC$ $DE + EC > CD$	2.
3. $AB > AC - BC$ $DE > CD - EC$	3. Subtraction
4. $AB + DE > AC - BC + CD - EC$	4. Addition
5. $AB + DE > AC + CD - BC - EC$	5. Commutative
6. $AB + DE > AC + CD - (BC + EC)$	6. Distributive
7. $AC + CD = AD$ $BC + EC = BE$	7. Segment Addition Postulate
8. $AB + DE > AD - BE$	8. Substitution