Goals: I can apply the isosceles triangle theorem and its converse. **HSG.CO.B.13**

Essential Questions:

1.) What is the Isosceles Triangle Theorem?

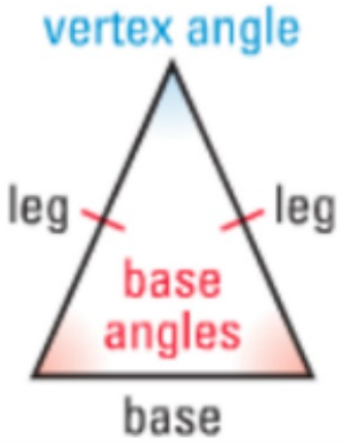
2.) What is the Converse of the Isosceles Triangle Theorem?

3.) What is a corollary?

4.) What are the corollaries that follow the Isosceles Triangle theorem?

Isosceles & Equilateral Triangles (4-5)

Goal: I can apply the isosceles triangle theorem, its converses, and corollaries.

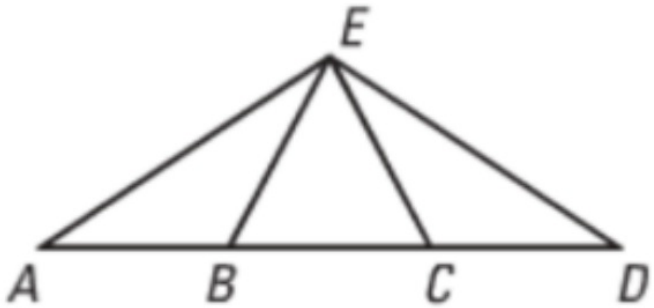


Isosceles Triangle	
Legs	
Vertex angle	
Base	
Base angles	

Base Angles Theorem	**Isosceles Triangle Theorem:**
Base Angles Converse	**Converse of the Isosceles Triangle Theorem:**
Corollaries	*If a triangle is equilateral, then it is* ☐ *If a triangle is equilangular, then it is* ☐

Additional Theorem: **The** ☐ **of the vertex angle of an** ☐ **triangle is the** ☐ ☐ **of the base.**

Use the diagram to fill in the blanks. Tell what theorem you used.



A) If $\overline{AE} \cong \overline{DE}$, then ∠_____ ≅ ∠_____. Theorem or Converse

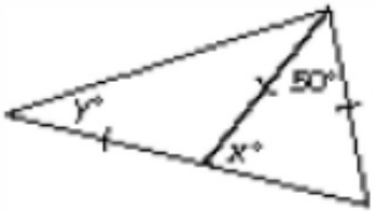
B) If ∠EDC ≅ ∠CED, then _____ ≅ _____. Theorem or Converse

C) If $\overline{AB} \cong \overline{EB}$, then ∠_____ ≅ ∠_____. Theorem or Converse

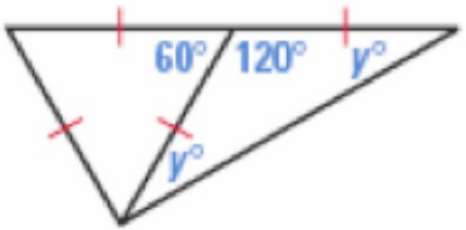
D) If ∠EBC ≅ ∠ECB, then _____ ≅ _____. Theorem or Converse

Using the Base Angles Theorem and the Converse of the Base Angles Theorem, find the value of x and y and z.

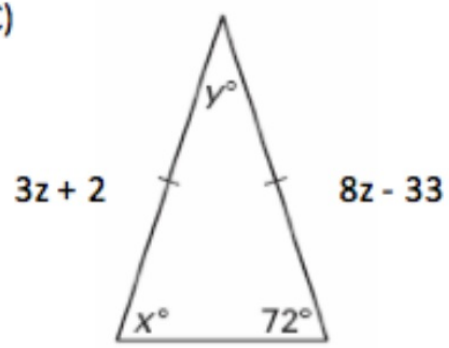
A)



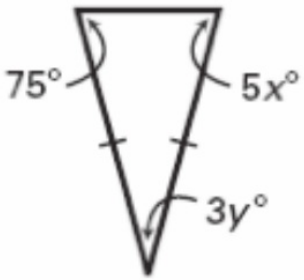
B)



C)

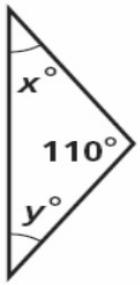


D)

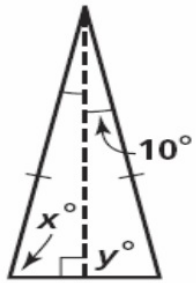


Find the values of the variables.

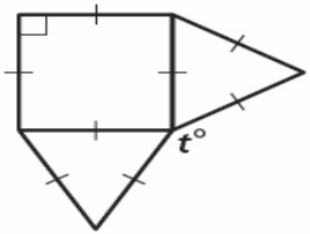
1. $x =$ _____, $y =$ _____



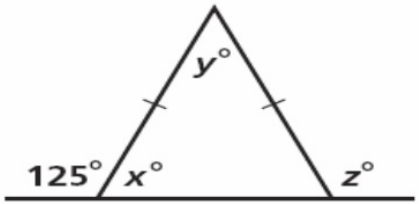
2. $x =$ _____, $y =$ _____



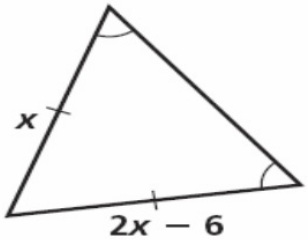
3. $t =$ _____



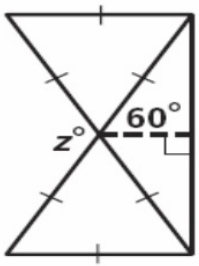
4. $x =$ _____, $y =$ _____, $z =$ _____



5. $x =$ _____



6. $z =$ _____



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HSG.CO.B.13

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Assignment: Page 230: 1-14, 20-22, 30-32