

Ch. 4-2 CLASSIFYING TRIANGLES

By Angles:

Acute, obtuse, right, Equiangular <sup>NOT COMMON</sup>

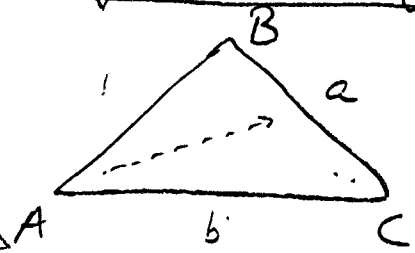
By sides: scalene, isosceles, equilateral

NO NAME 2 congruent angles



Ch 4-3 Angle Relationships in Triangles

\* Triangle Sum Theorem  
 $m\angle A + m\angle B + m\angle C = 180$

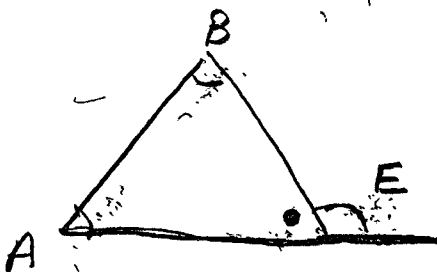
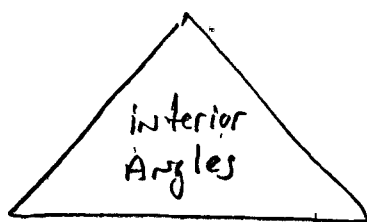


NAMING SIDES/ANGLES  
CAPS

- Proof - Pg. 231

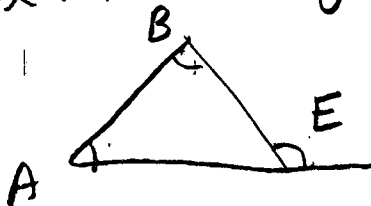
Corresponding  $\angle$ 's?  
 $\triangle ABC \cong \triangle XYZ$ ?

Pg 232 { Acute  $\angle$ 's of  $\triangle$  ?  
 Each  $\angle$  in  $\triangle$  ?



$\angle A$  and  $\angle B$  are Remote Interior  
(Far Away)  
Angles for Exterior  $\angle E$

Pg 233 Exterior Angle Theorem



$$m\angle E = m\angle A + m\angle B$$

\* A Biggie — Pg 234

Third Angle Theorem

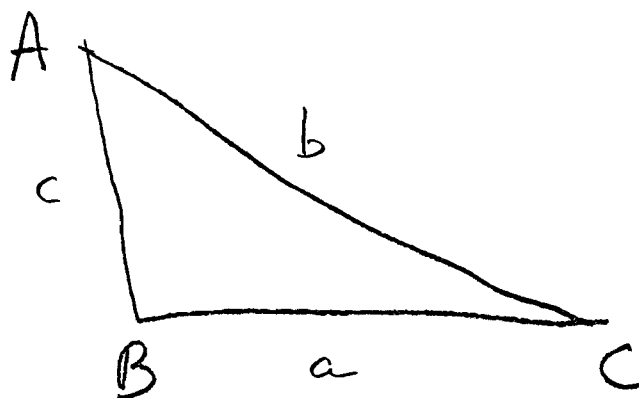
If 2 angles of a  $\triangle$  are  $\cong$   
to 2 angles of another  $\triangle$ ,  
the 2 triangles are congruent

pg  
346  
Ch 5-5

# Triangle Inequality Theorem

The sum of any 2 sides  
of a  $\triangle$  must be <sup>></sup>  
greater  
than the third side length

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$$a + c > b$$

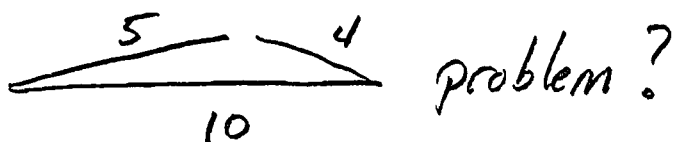
$$a + b > c$$

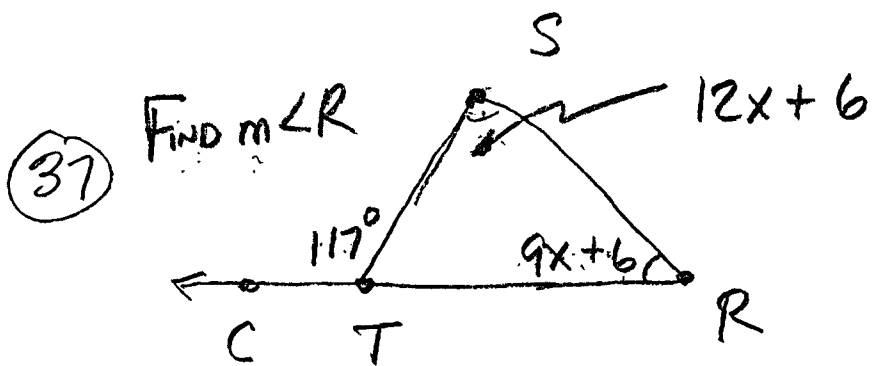
$$b + c > a$$


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⊗  $\triangle$ ? 4, 5, 8

$\triangle$ ? 4, 5, 10





$$\underline{9x + 6} + \underline{12x + 6} = 117$$

$$21x + 12 = 117$$

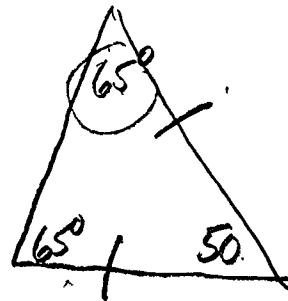
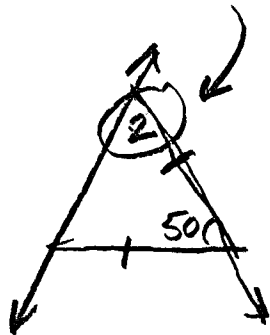
$$\quad \quad -12 \quad \quad -12$$

$$\frac{21x}{21} = \frac{105}{21}$$

$$x = 5$$

$$m\angle R = 9(5) + 6 = 51^\circ$$

(55)  $m\angle 2 = x + 73$



$$x + 73 = 65$$

$$x = -8$$