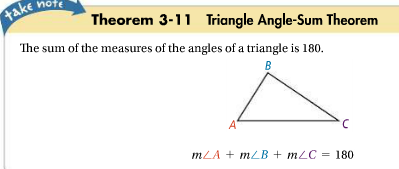
Geometry 22 **3.5 notes – Parallel Lines and Triangles** Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_per\_\_\_\_

*Target: students will be able to use triangle sum theorem and triangle exterior angles theorem in proofs and ‘solves’.*

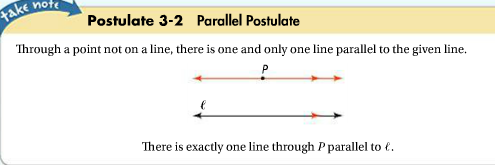
🡪start with ‘solve it’



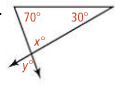
TRIANGLE SUM THEOREM:

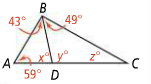
The sum of the measures of the angles of a triangle is 180.

m<A + m<B + m<C = 180



(this is used to PROVE triangle sum theorem, but we are not going to do that proof at this point…just know the postulate)

* **SOLVE using triangle sum theorem:**

1 2.

x = \_\_\_\_\_\_ y = \_\_\_\_\_\_\_ x = \_\_\_\_\_\_ y = \_\_\_\_\_\_\_ z =\_\_\_\_\_\_\_

***\*DEFINITIONS:***

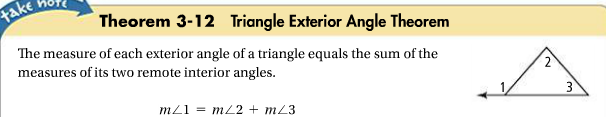
\*\*EXTERIOR ANGLE of a polygon: the angle that forms a linear pair with an interior angle of the polygon, when one of the sides of the polygon is extended.

Diagram🡪

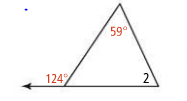
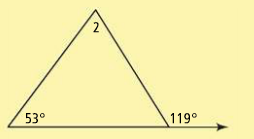
\*\* REMOTE INTERIOR ANGLES of a triangle: for each exterior angle, the 2 nonadjacent interior angles in the triangle.

Diagram🡪

<\_\_\_\_ and <\_\_\_\_\_ are the remote interior angles to <\_\_\_\_\_



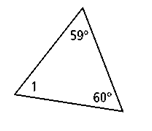
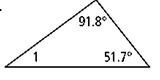
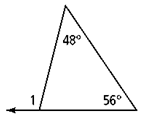
* **SOLVE using triangle EXTERIOR angle theorem:**

3. 4.

***3.5 MORE PRACTICE***

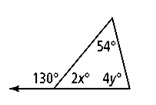
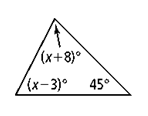
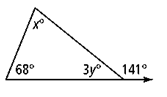
*Find the measure of angle 1;*

5. 6. 7.

*Find the value of each variable;*

8. 9. 10.

HW pg. 175 #9-15, # 17-22 and #30, 31