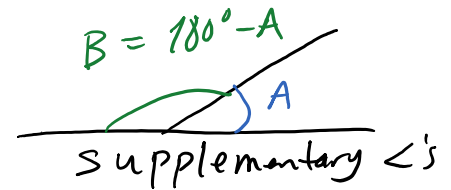


FOM 11

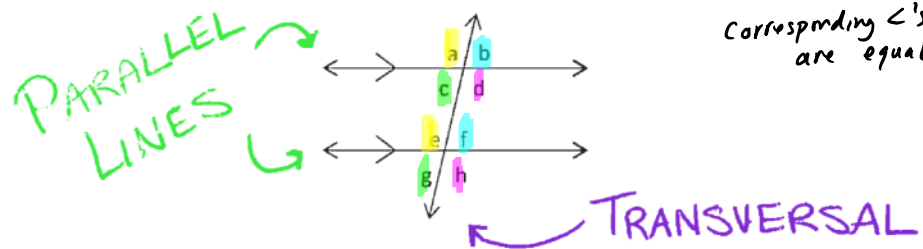
Chapter 2: Angles and Triangles

Review



Parallel lines are lines with the same slope but different y-intercepts. Parallel lines will never intersect each other.

If two parallel lines are cut by a transversal, eight angles are created.



Corresponding angles are one interior angle and one exterior angle that are non-adjacent and on the same side of the transversal. **Corresponding angles are equal.**

Corresponding = Same Position

$$a = e$$

$$b = f$$

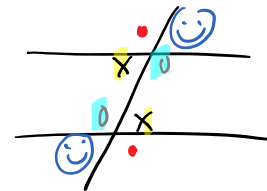
$$c = g$$

$$d = h$$

Alternate Interior Angles are two interior angles that are non-adjacent and are on opposite sides of the transversal. **Alternate interior angles are equal.**

$$c = f$$

$$d = e$$

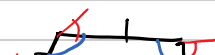
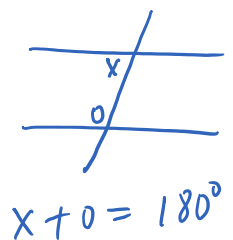


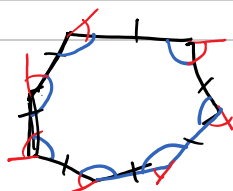
Co-Interior Angles are two interior angles that are on the same side of the transversal. (ISRT)
Co-interior angles are supplementary.

Supplementary means they add to 180°

$$c + e = 180^\circ$$

$$d + f = 180^\circ$$





$n = 7$
sum of interior angles?

$$180^\circ(n-2)$$

$$180(7-2) = 900^\circ$$

$$\text{Measure of 1 angle} = \frac{900}{7}$$

The sum of the angles in a triangle is 180° . The sum of the angles in a quadrilateral is 360° .

In any polygon with n sides, the sum of the interior angles is $180^\circ(n-2)$. A **regular polygon** has equal sides and equal angles.

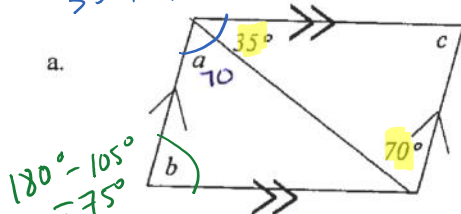
The sum of the exterior angles of any convex polygon is 360° .

Each exterior angle of a regular polygon is $\frac{360^\circ}{n}$.

Example 1: Determine the values of a , b , and c .

$$35^\circ + 70^\circ = 105^\circ$$

a.

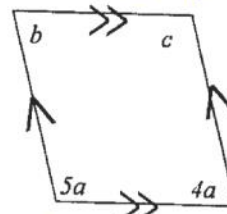


$$180^\circ - 105^\circ = 75^\circ$$

$\angle a = 70^\circ$ alt int \angle 's
 $\angle b = 75^\circ$ co-int \angle 's
 $\angle c = 75^\circ$ Opposite \angle 's in Parallelogram =
 (OR \angle sum Δ)

start with angles containing the same letter.

b.



$$180(n-2)$$

$$180(4-2)$$

$$= 180(2)$$

$$= 360^\circ$$

$$5a + 4a = 180^\circ$$

$$\frac{9a}{9} = \frac{180}{9}$$

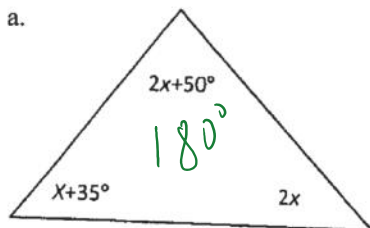
$$a = 20^\circ$$

$$b = 4a = 4(20) = 80^\circ$$

$$c = 5a = 5(20) = 100^\circ$$

Example 2: Determine the value of x in the following diagrams.

a.



$$(x+35) + (2x+50) + 2x = 180^\circ$$

$$x + 2x + 2x + 35 + 50 = 180^\circ$$

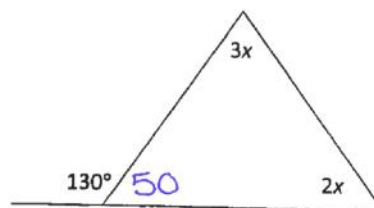
$$5x + 85 = 180$$

$$-85 \quad -85$$

$$\frac{5x}{5} = \frac{95}{5}$$

$$x = 19$$

b.



$$180 - 130 = 50$$

$$2x + 3x + 50 = 180$$

$$5x + 50 = 180$$

$$5x = 130$$

$$x = 26$$

OR exterior angle of Δ
 = sum of opposite interior angles