

ANGLES AND PARALLEL LINES

Complementary angles: when the sum is equal to 90 degrees
 To complement someone, is the right thing to do

Supplementary angles: when the sum is equal to 180 degrees

Vertically opposite angles theorem: Two vertically opposite angles are congruent (equal)

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Parallel lines theorem: if two parallel lines are intersected by a transversal line, 8 angles are formed.

Alternate interior angles: (always opposite of transversal line inside) are congruent: Angles 3 and 5 and angles 4 and 6

Alternate exterior angles: (always opposite of transversal line outside) are congruent: Angles 1 and 7 and angles 2 and 8

Corresponding angles: (always on same side) are congruent: Angles 1 and 5; 2 and 6; 3 and 7; 4 and 8

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Theorem of interior angles of a triangle: The sum of the interior angles of a triangle is 180 degrees

$a + b + c = 180^\circ$

Angle AOB is a right angle. The ray OC separates AOB into the two adjacent angles AOC and BOC.

- What is the complementary angle to angle AOC? BOC
- If angle AOC measures 30° , what is the measure of angle BOC? 60°

Lines l and l' on the right are parallel and intersect line l'' .

- What can be said about the angles that are
 - alternate-interior? 3,5 / 4,6
 - alternate-exterior? 1,7 / 2,8
 - corresponding? 2,6 / 3,7 / 1,5 / 4,8
- Deduce the measure of angles 2 to 8 if angle 1 measures 60° .

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$64 + 82 = 146$
 $180 - 146 = 34^\circ$

$180 - 60 = 120$
 $180 - 34 = 146$

$54 + 74 = 128$
 $180 - 128 = 52^\circ$

In the figure on the right, lines BC and DE are parallel. If angle ABC measures 70° and angle GEF measures 50° , find the measure of angle A.

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