Quad ABCD Has 360°

Th^m 5-4: The Sum of the angles of Any Quadrilateral is 360°

ex1)
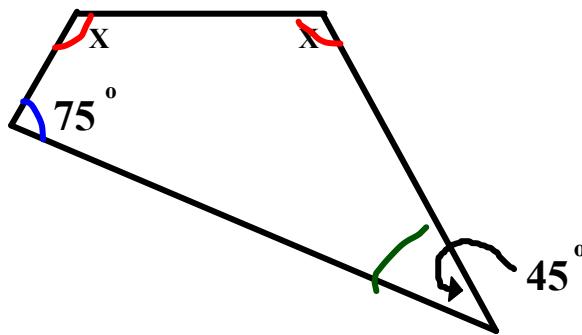
find 'x'

$$75 + x + x + 45 = 180°$$

$$2x + 120 = 180$$

$$-120 \quad -120$$

$$\frac{2x}{2} = \frac{60}{2}$$

$$x = 30°$$

Parallelograms

$m\angle 1 = m\angle 5$
AIA

$m\angle 5 + m\angle 2 = 180$

$m\angle 1 + m\angle 2 = 180$
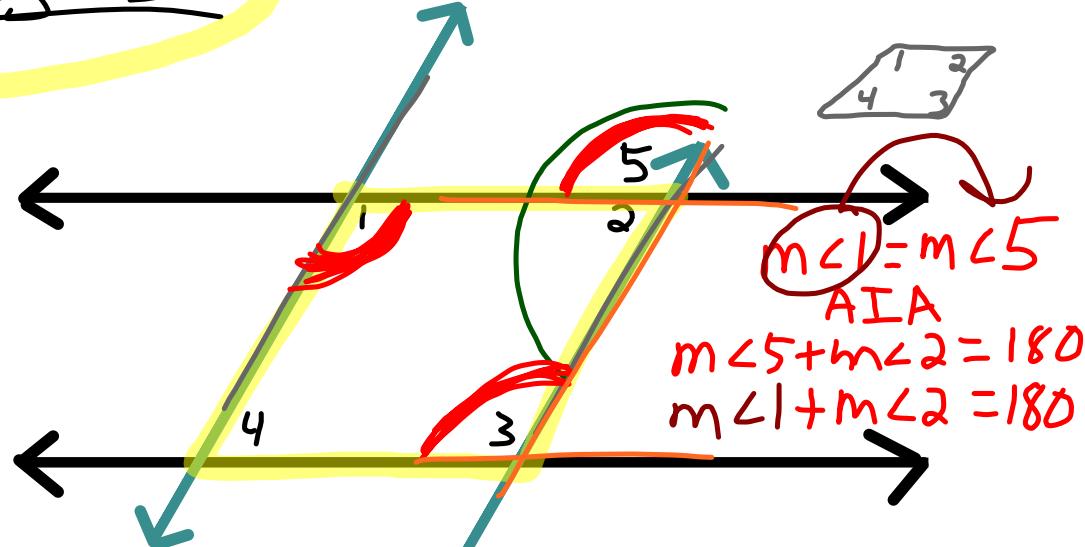
∠1 & ∠2 are called
Consecutive Angles
as are ∠3 + ∠4; ∠2 + ∠3; ∠1 + ∠4

180°

∠1 & ∠3 are called
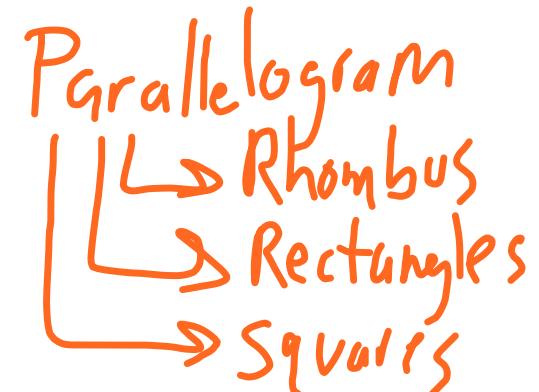Opposite Angles
as are ∠2 & ∠4

} Same

$\boxed{m\angle 1 = m\angle 5}$
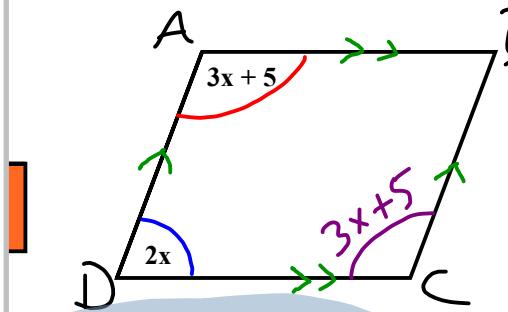AIA

$m\angle 5 = m\angle 3$
C.A.

$m\angle 1 = m\angle 3$

Th^{m}5-5: The Sum of the Angles of any 2 consecutive Angles of a Parallelogram is equal to 180°.

Th^{m}5-6: Any 2 opposite Angles of a Parallelogram have the Same Measure

Parallelogram
└→ Rhombus
 └→ Rectangles
  └→ Squares

A ⟩⟩ B

$3x + 5$

$3x+5$

$2x$
D C

find x:

∠A & ∠D are
Con. ∠'s and
Con ∠'s equal $180°$

find m∠C

∠C & ∠A
opp. ∠'s and
$m∠C = m∠A$

$3x + 5 = m∠C$

$2x + 3x + 5 = 180$
$5x + 5 = 180$
$ -5 \quad -5$
$5x = 175$
$\dfrac{5x}{5} = \dfrac{175}{5}$

$x = 35$

$3(35) + 5 = m∠C$
$105 + 5 = m∠C$
$110° = m∠C$

O.T.L.

① pg 166: Exp: 1-6(a)

Written: 1, 3, 5, 7, 8