Parallelograms – Part 1

Geometry

Chapter 6

A BowerPoint Presentation

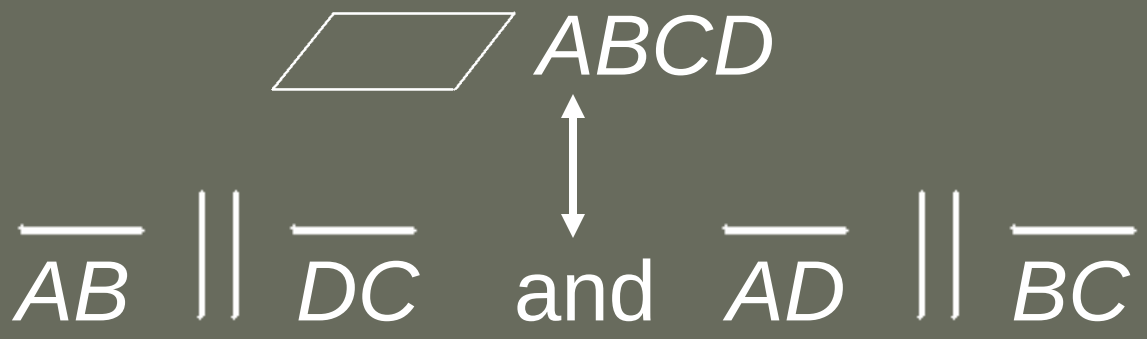
Definition of parallelogram

A quadrilateral is a parallelogram

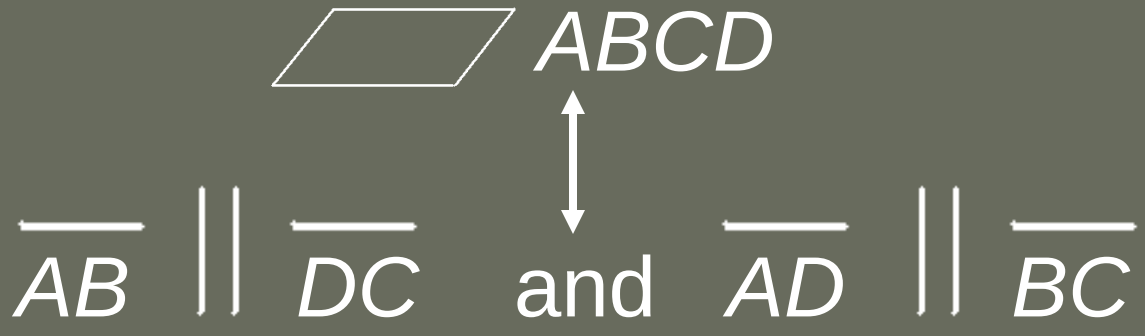
IF and ONLY IF

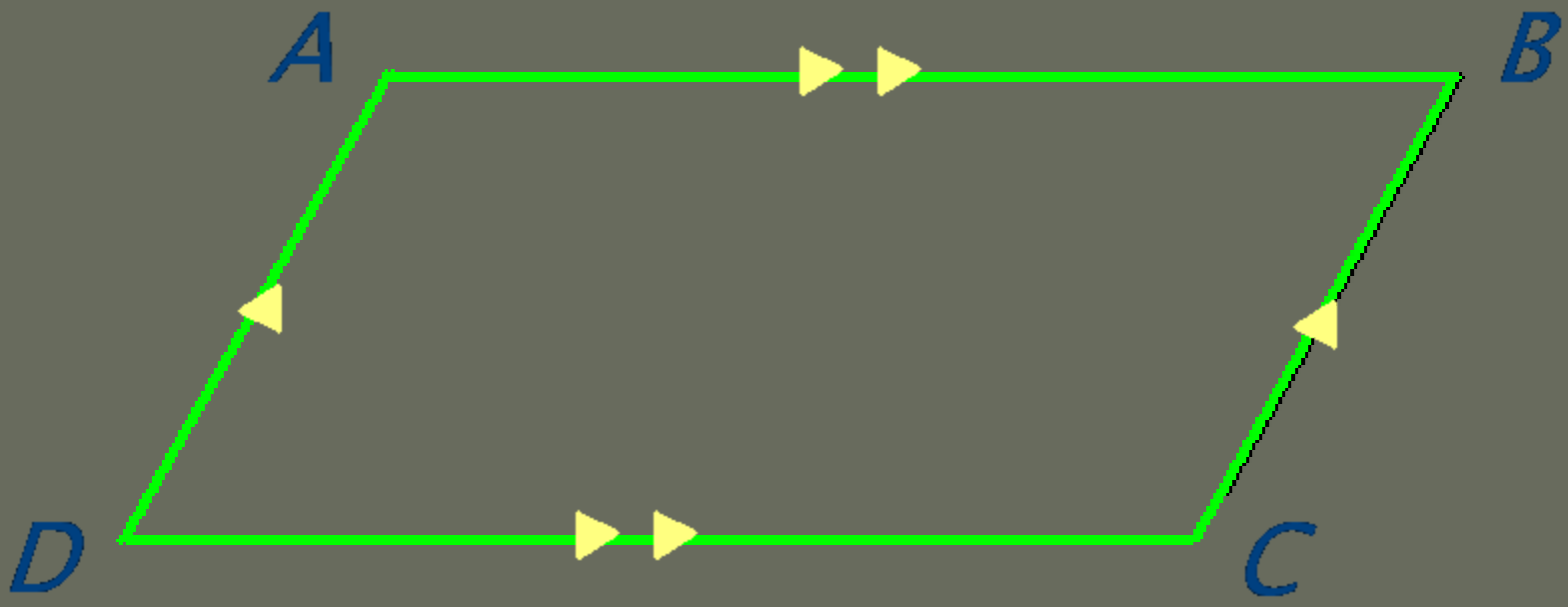
both pairs of opposite sides are parallel

Definition of parallelogram



Definition of parallelogram





If  , then opp sides $\cong$

If  $ABCD$

$\overline{AB} \cong \overline{DC}$ and $\overline{AD} \cong \overline{BC}$

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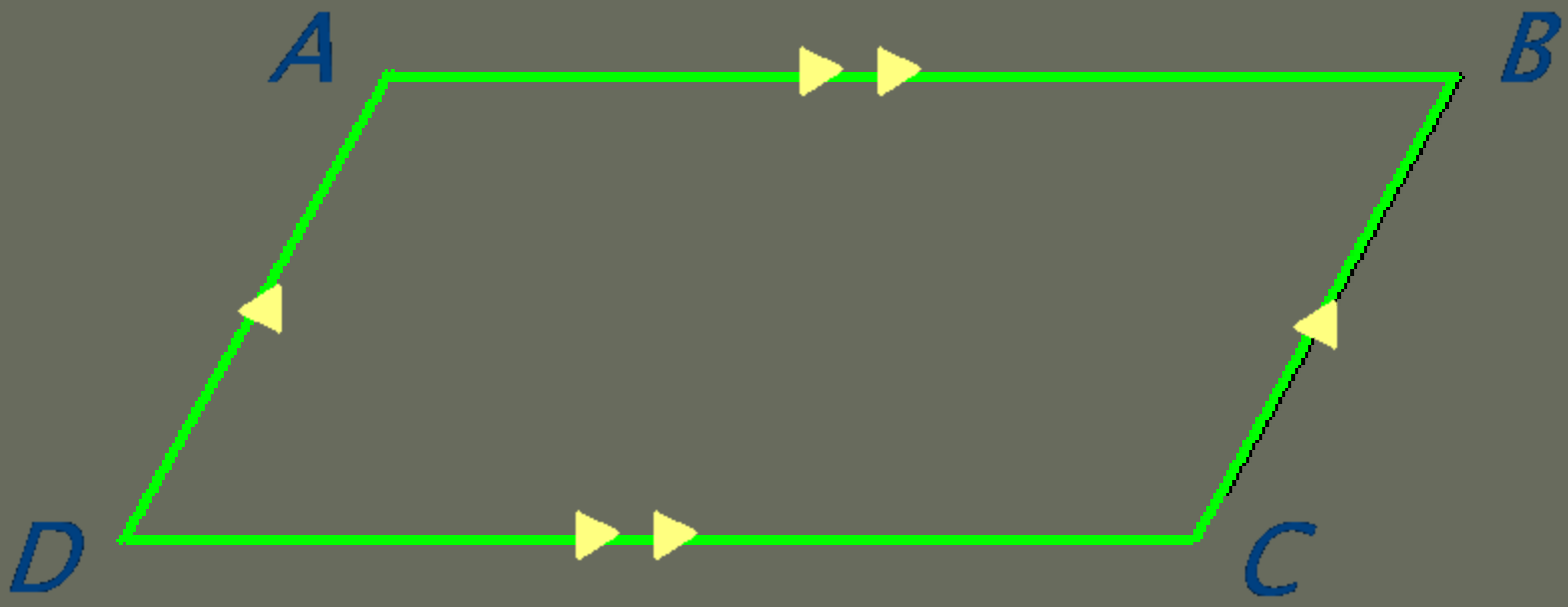

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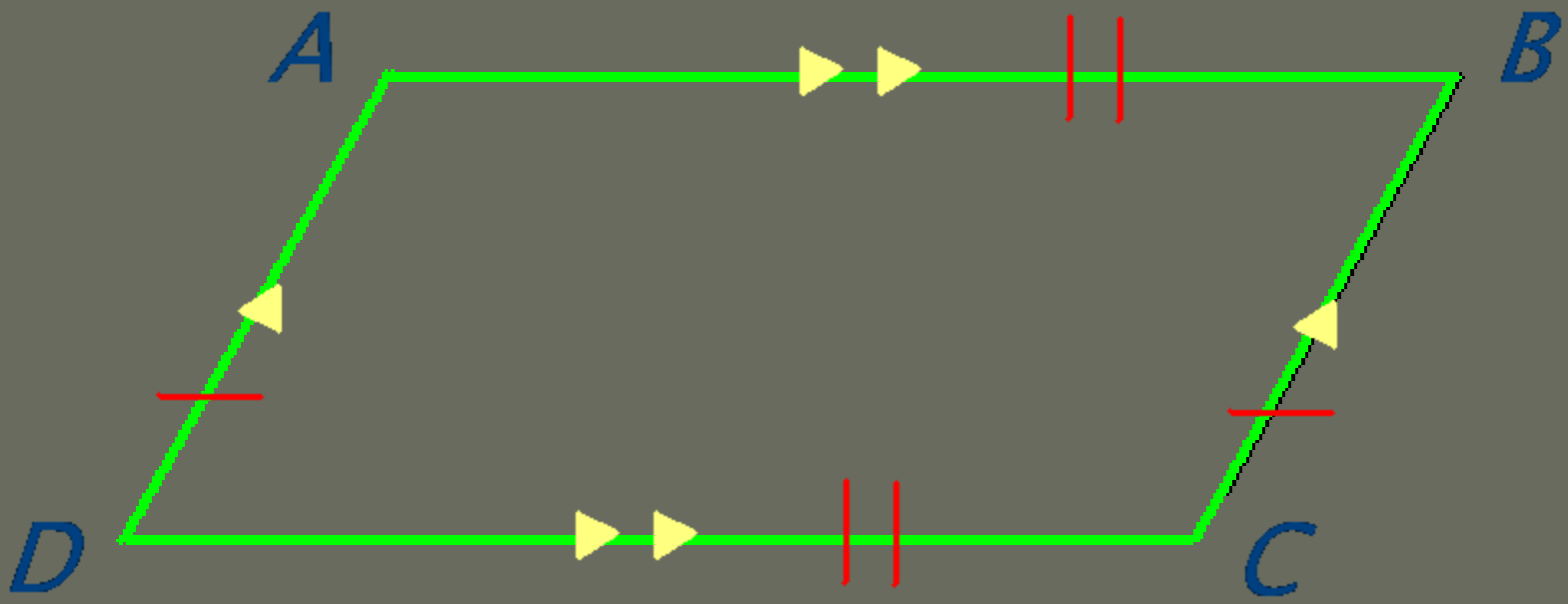

If  , then opp $\angle$s $\cong$

If  $ABCD$

$\angle A \cong \angle C$ and $\angle B \cong \angle D$

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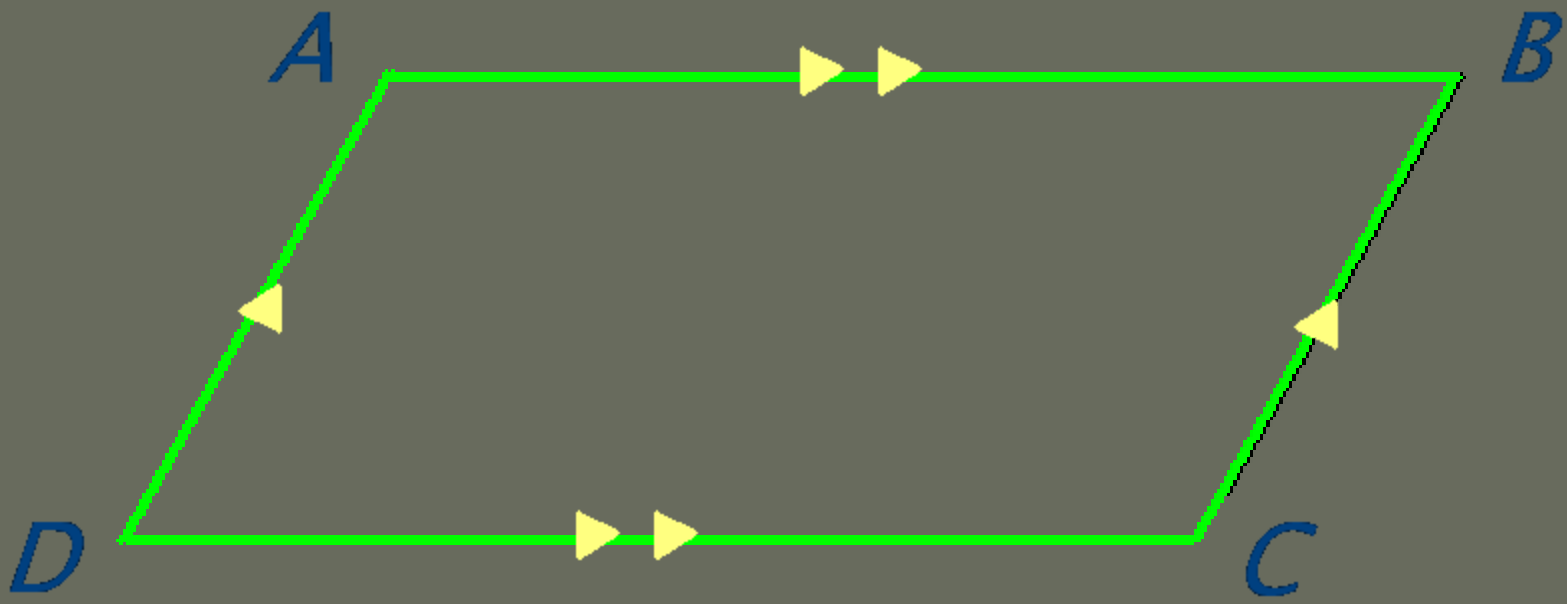
$\angle A \cong \angle C$ and $\angle B \cong \angle D$



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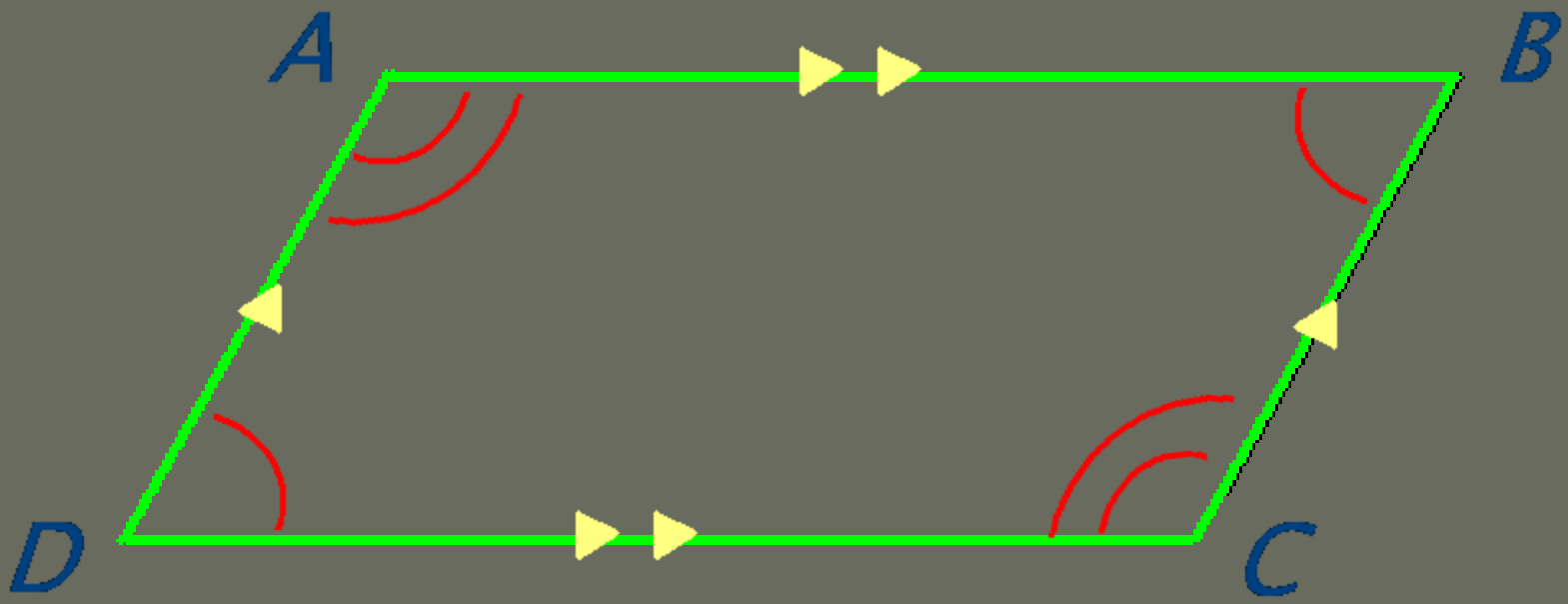

If  , then diagonals bisect each other

If  $ABCD$

$\overline{AM} \cong \overline{MC}$ and $\overline{BM} \cong \overline{MD}$

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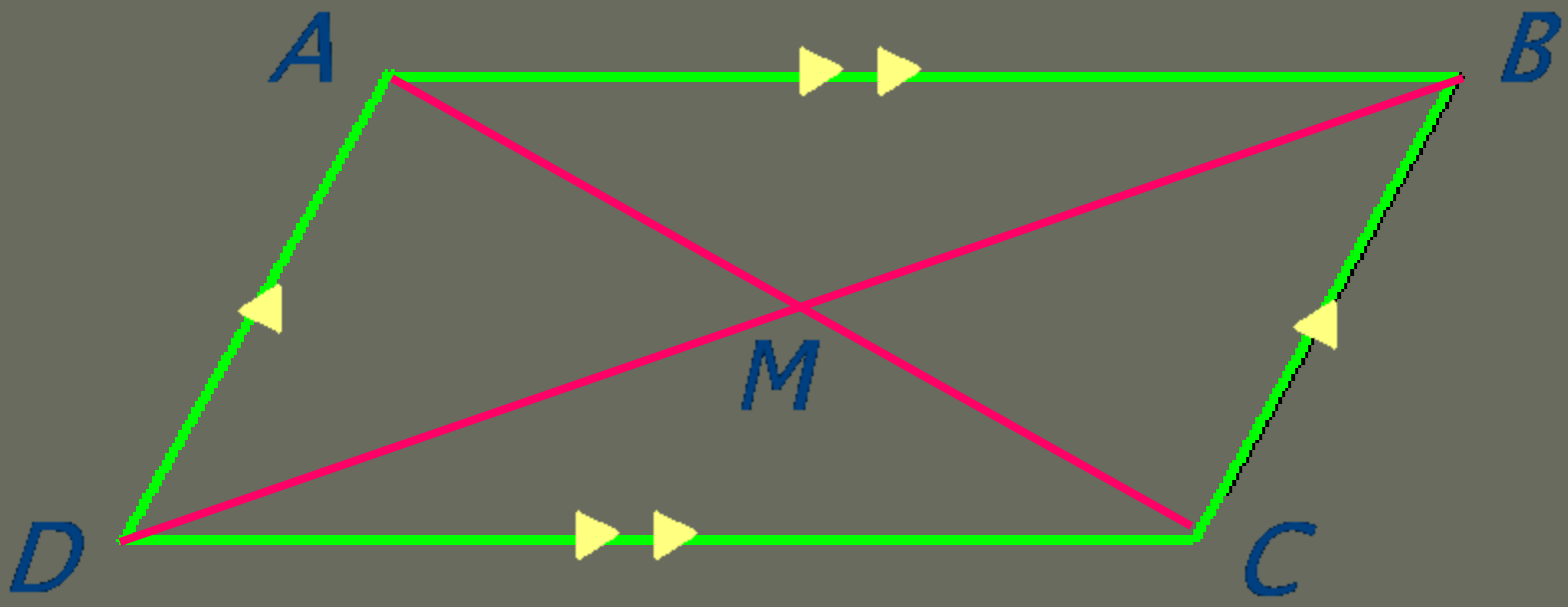

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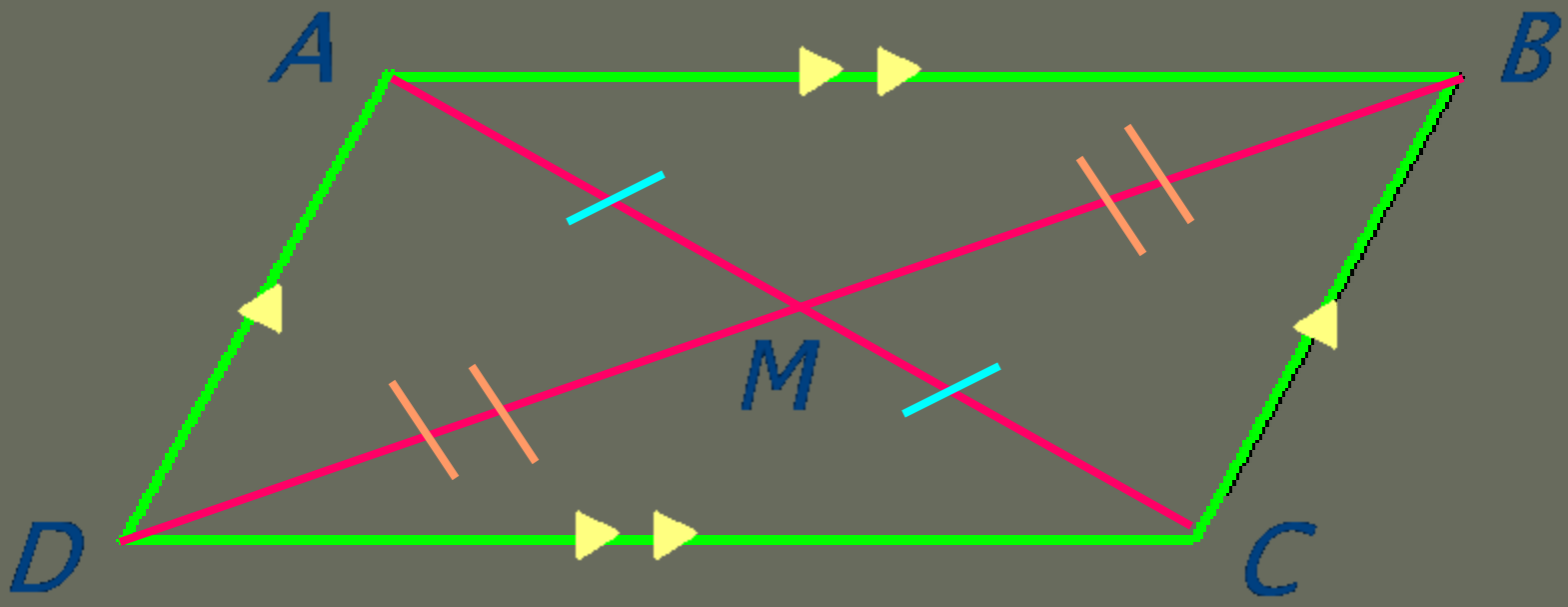
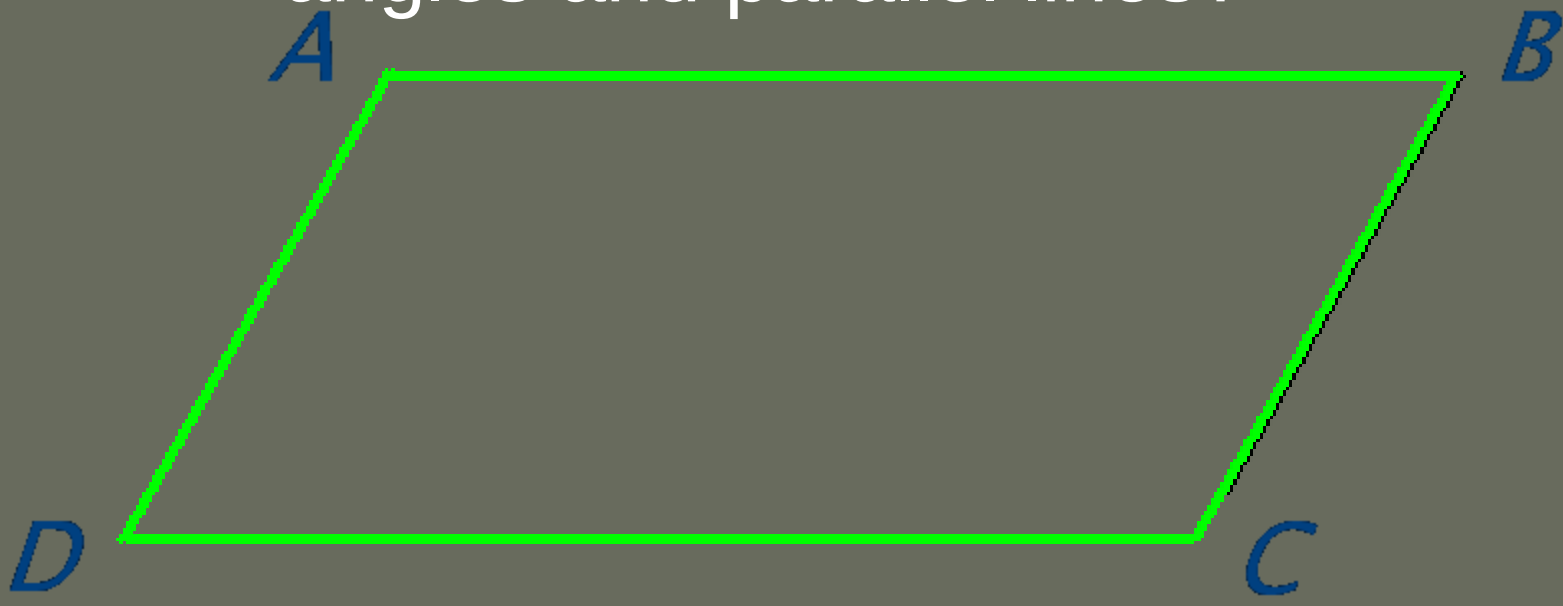


Same-side interior angles

Do you see any same-side interior angles in this parallelogram?

What do you know about same-side interior angles and parallel lines?



If ▱ , then consecutive ∠s are supps

If ▱ $ABCD$

$\downarrow$

$m\angle A + m\angle B = 180$; $m\angle B + m\angle C = 180$

$m\angle C + m\angle D = 180$; $m\angle D + m\angle A = 180$