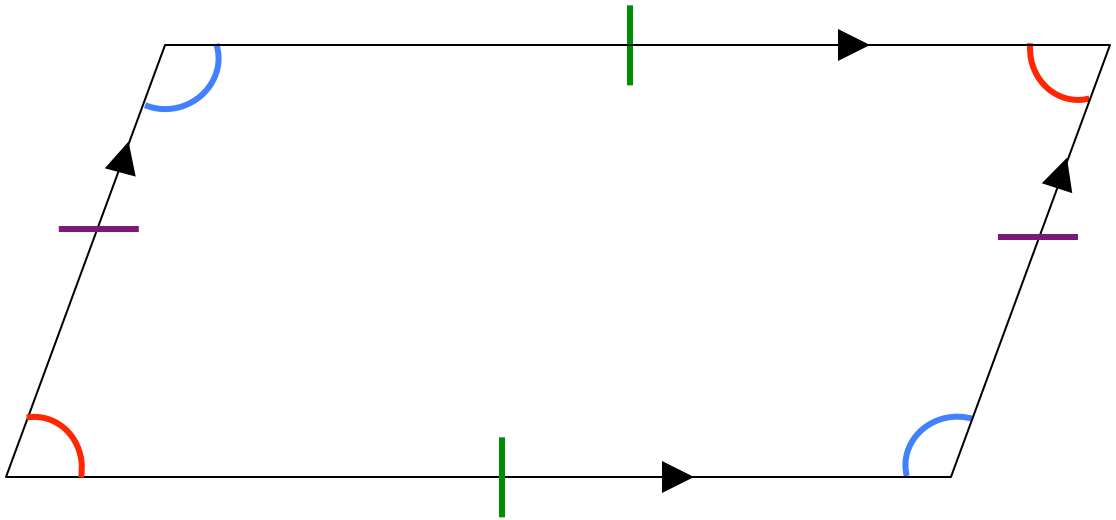
Parallelograms

Properties & Attributes

Parallelograms

…are quadrilaterals in which both pairs of opposite sides are parallel

- If a quadrilateral is a parallelogram, then its **opposite sides** are **congruent**.
- If a quadrilateral is a parallelogram, then its **opposite angles** are **congruent**.
- If a quadrilateral is a parallelogram, then its **consecutive (or same-side interior) angles** are supplementary.

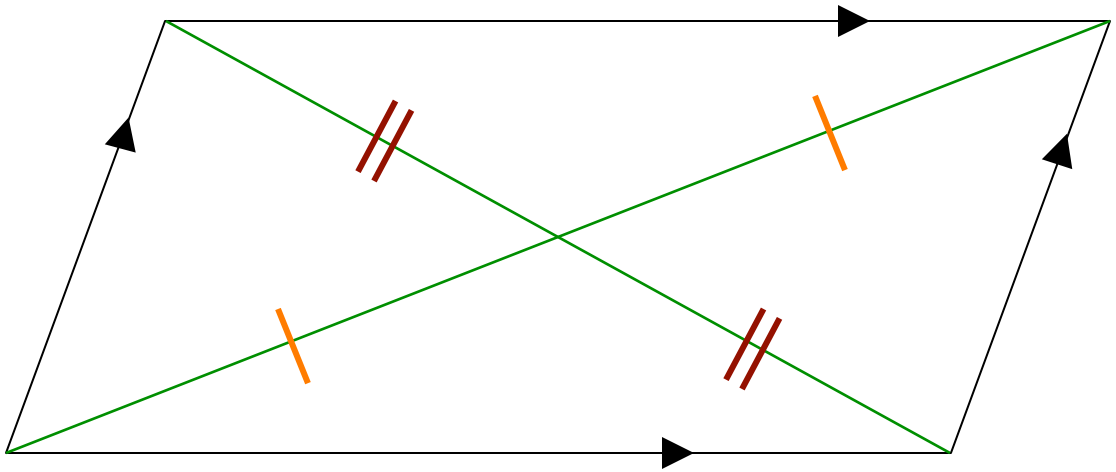


Parallelograms

…are quadrilaterals in which both pairs of opposite sides are parallel

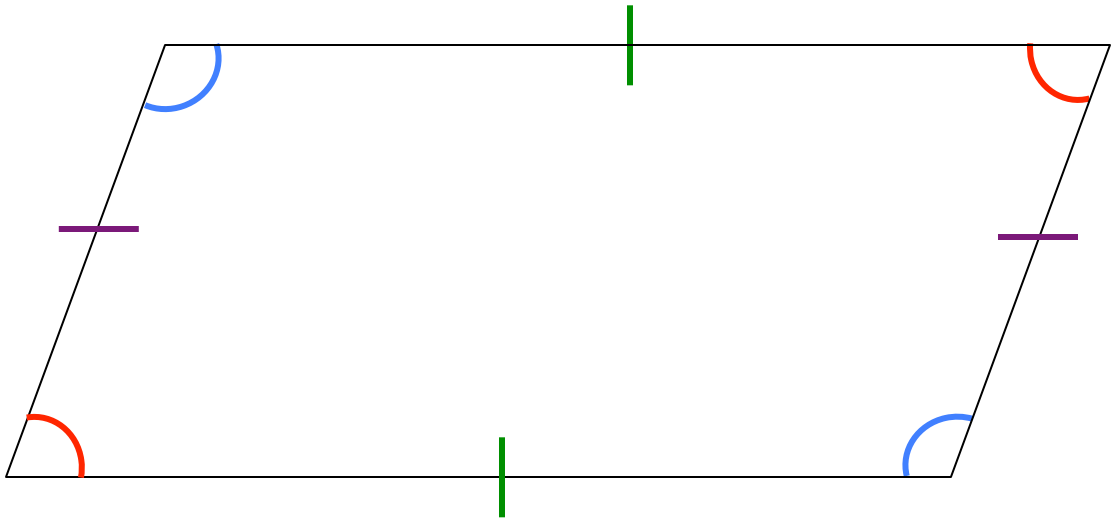
- If a quadrilateral is a parallelogram, then its **diagonals bisect each other**.

But how would we prove any given quadrilateral is a parallelogram?



Parallelograms

- If the **opposite sides** of a quadrilateral are **congruent**, then it is a parallelogram.
- If the **opposite angles** of a quadrilateral are **congruent**, then it is a parallelogram.
- If the **consecutive angles** of a quadrilateral are **supplementary**, then it is a parallelogram.



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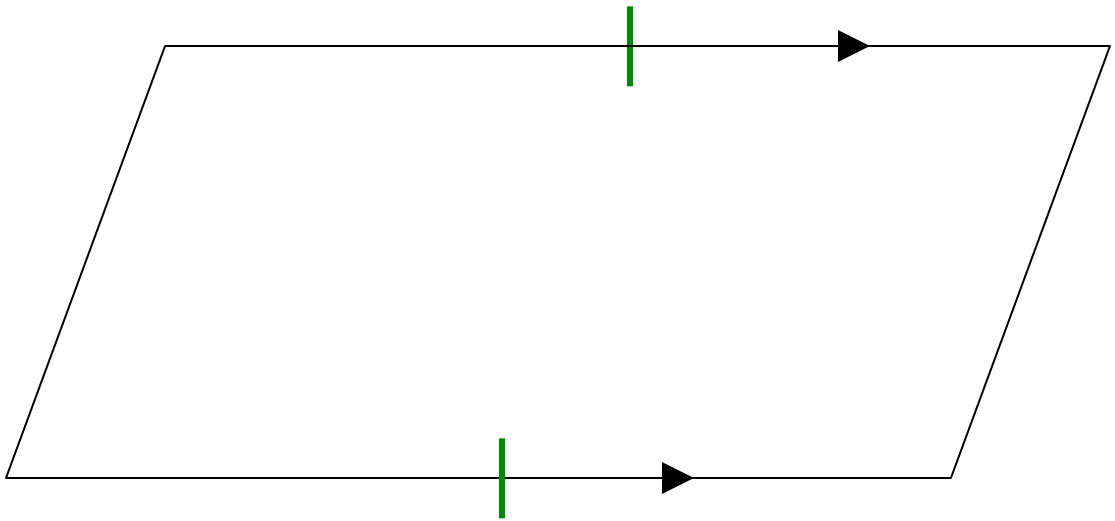
- If the **opposite angles** of a quadrilateral are **congruent**, then it is a parallelogram.
- If the **consecutive angles** of a quadrilateral are **supplementary**, then it is a parallelogram.
- If *one* pair of **opposite sides** are **parallel** and **congruent**, then the quadrilateral is a parallelogram.



Parallelograms

- If the **opposite sides** of a quadrilateral are **congruent**, then it is a parallelogram.
- If the **opposite angles** of a quadrilateral are **congruent**, then it is a parallelogram.
- If the **consecutive angles** of a quadrilateral are **supplementary**, then it is a parallelogram.
- If *one* pair of **opposite sides** are **parallel** and **congruent**, then the quadrilateral is a parallelogram.
- If the **diagonals** of a quadrilateral **bisect each other**, then it is a parallelogram.