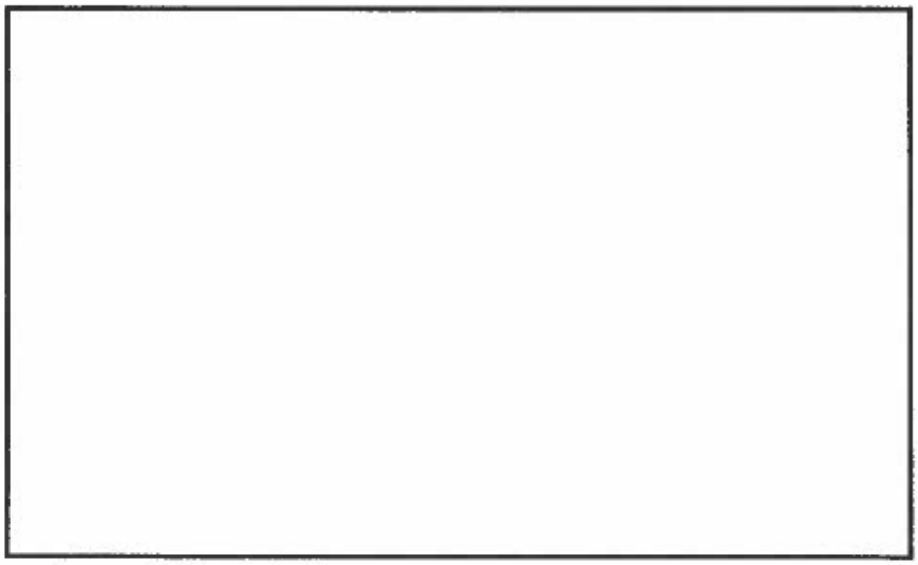
5-4 Special Parallelograms

Name	Definition	Why a Parallelogram?
Rectangle	Quadrilateral with 4 right angles	
Rhombus	Quadrilateral with 4 congruent sides	
Square	Quadrilateral with 4 right angles ***AND*** 4 congruent sides	

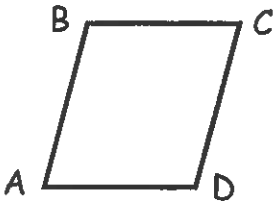


Geometry 5.4-Special Parallelograms

If two consecutive sides of a parallelogram are congruent, then the parallelogram is a rhombus.

Given:

Prove:

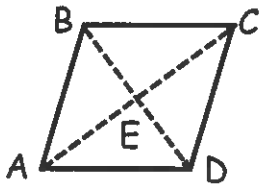


Statements	Reasons

If a parallelogram is a rhombus, then its diagonals are perpendicular.

Given:

Prove:



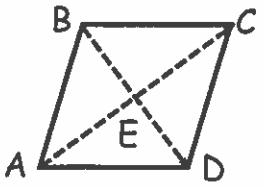
Statements	Reasons

Geometry 5.4-Special Parallelograms

If the diagonals of a parallelogram are perpendicular, then it is a rhombus.

Given:

Prove:



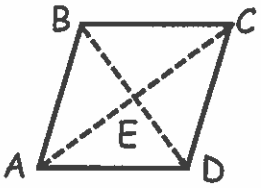
Statements	Reasons

⊙ A parallelogram is a rhombus if and only if its diagonals are perpendicular.

Each diagonal of a rhombus bisects two angles of a rhombus.

Given:

Prove:



Statements	Reasons

Geometry 5.4-Special Parallelograms

If an angle of a parallelogram is a right angle, then the parallelogram is a rectangle.

Given:

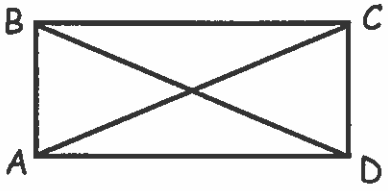
Prove:

Statements	Reasons

If a parallelogram is a rectangle, then its diagonals are congruent.

Given:

Prove:



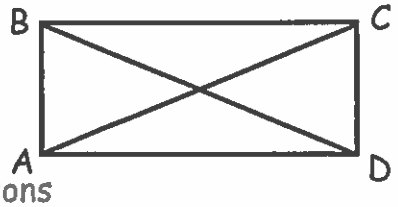
Statements	Reasons

Geometry 5.4-Special Parallelograms

If the diagonals of a parallelogram are congruent, then it is a rectangle.

Given:

Prove:



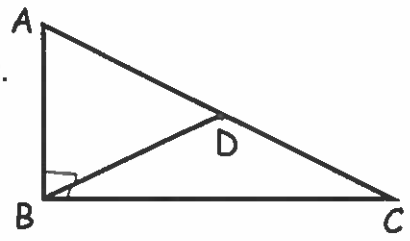
Statements	Reasons

◉ A parallelogram is a rectangle if and only if its diagonals are congruent.

The midpoint of the hypotenuse of a right triangle is equidistant from the three vertices.

Given:

Prove:



Statements	Reasons

Does a diagonal cut a parallelogram into two congruent triangles?

Assignment #43

Part I: Special Parallelograms Packet

Part II: p. 187-189 WE #1-19
[Table for #1-10, Reasons for #11-19]