Activity 10 — Special Parallelograms

Objectives

This activity is designed to help students discover the following theorems:

- ✔ *If a parallelogram is a rhombus, then each diagonal bisects a pair of angles opposite.*

- ✔ *If a parallelogram is a rectangle, then the diagonals are congruent.*

Vocabulary

parallelogram	rhombus
angle	rectangle
diagonal	bisect

Prerequisites

Students must understand how to:

- ✔ *Construct and label a segment.*

- ✔ *Construct perpendicular lines and bisectors.*

- ✔ *Construct parallel lines.*

- ✔ *Measure and label sides.*

- ✔ *Measure and label angles.*

Answers

2. Answers will vary.

3. $\overline{AC}$ and $\overline{BD}$ bisect the opposite angles.

5. Answers will vary.

6. If a parallelogram is a rhombus, then each diagonal bisects a pair of opposite angles.

9. Answers will vary.

11. Answers will vary.

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