Activities for Chapter 6

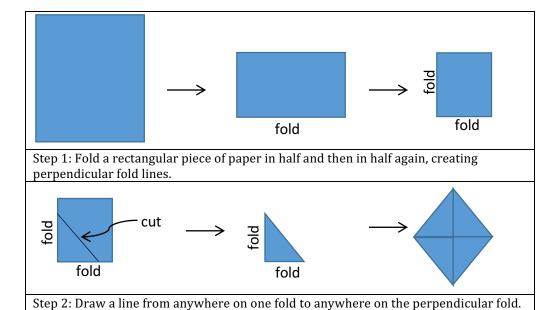
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Activity 1: Folding Rhombuses

You will need a piece of paper and scissors for this activity.

To create a rhombus, follow the next set of instructions:



1. By referring to the definition of a rhombus, explain *why* the method described must always create a rhombus.

Cut along the line you drew. When you unfold, you will have a rhombus.

2. What properties does your rhombus have? Find as many as you can.

Activity 2: Mysterious Midpoints

You will need four pieces of graph paper and colored pencils for this activity.

- 1. Plot and label the following sets of points on separate coordinate axes. Connect the points in each set in order to form the following special quadrilaterals: a parallelogram, a rhombus, a rectangle, and a square.
 - a. D(4,8), U(1,3), C(10,6), K(13,11)
 - b. B(2,-2), I(9,1), K(2,4), E(-5,1)
 - c. R(2,3), O(-3,3), S(-3,-4), E(2,-4)
 - d. P(-2,-5), O(-7,0), L(-2,5), Y(3,0)
- 2. Identify each of the quadrilaterals and explain precisely how you determined your answer.

- 3. Locate the midpoints of the sides and label them consecutively M, O, N, and T. In a different color, connect the points in order to form quadrilaterals.
 - a. Are any of the quadrilaterals *MONT* that were formed special quadrilaterals? Explain how you determined your answer.

b. Are any of the quadrilaterals *MONT* the same type of quadrilateral as the original figure? Explain how you determined your answer.

Activity 3: Quadrilateral Classifications

Complete the following charts about special quadrilaterals.

In this first table, if it is not true that ALL adjacent sides/angles are congruent, but certain PAIRS of adjacent sides/angles are congruent, write "Pairs." Otherwise, write "Yes" if the statement is always true and "No" if the statement is sometimes or never true.

	Opposite Sides	(Pairs of) Adjacent	Opposite Angles	(Pairs of) Adjacent
	Congruent?	Sides Congruent?	Congruent?	Angles Congruent?
Quadrilateral				
Parallelogram				
Rhombus				
Rectangle				
Square				
Trapezoid				
Isosceles Trapezoid				
Kite				

Write "Yes" if the statement is true and "No" if the statement is sometimes or never true.

	Diagonals Bisect	Diagonals	Diagonals	Diagonals Bisect
	Each Other?	Congruent?	Perpendicular?	Opposite Angles?
Quadrilateral				
Parallelogram				
Rhombus				
Rectangle				
Square				
Trapezoid				
Isosceles Trapezoid				
Kite				