

NAME: \_\_\_\_\_

*P.I. G.G.38: Investigate, justify, and apply theorems about parallelograms involving their angles, sides, and diagonals*

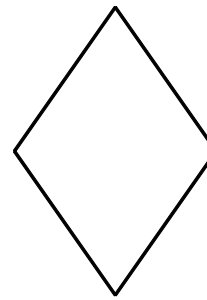
*P.I. G.G.39: Investigate, justify, and apply theorems about special parallelograms (rectangles, rhombuses, squares) involving their angles, sides, and diagonals*

*P.I. G.G.40: Investigate, justify, and apply theorems about trapezoids (including isosceles trapezoids) involving their angles, sides, medians, and diagonals*

1. Identify the quadrilateral which has one pair of parallel sides.
2. Identify the quadrilateral which has two pairs of parallel sides and all angles congruent.
3. What name is given to polygons whose sides all have the same length and whose angles all have the same measure?

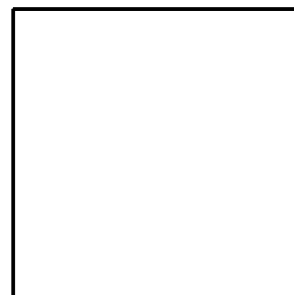
4. What is the name of the quadrilateral that has two pairs of parallel sides?

5. Which **BEST** describes the figure correctly?



- [A] rhombus                      [B] quadrilateral  
[C] parallelogram              [D] trapezoid

6. Describe the figure using as many of these words as possible: rectangle, trapezoid, square, quadrilateral, parallelogram, rhombus



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7. Select the geometric figure that possesses all of the following characteristics:  
(1) quadrilateral  
(2) diagonals equal  
(3) opposite sides are parallel  
[A] trapezoid                      [B] parallelogram  
[C] rhombus                      [D] rectangle
8. In quadrilateral  $MNOP$ ,  $\angle M \cong \angle N$ .  
Quadrilateral  $MNOP$  could be a  
I. trapezoid.    II. rhombus.    III.  
parallelogram.  
[A] I, II, or III                      [B] II or III  
[C] I or II                      [D] I only                      [E] III only
9. Which pairs of quadrilaterals are congruent?  
I. two squares whose corresponding diagonals are congruent  
II. two rectangles whose corresponding diagonals are congruent  
III. two rhombuses whose corresponding diagonals are congruent  
[A] I only                      [B] I and II  
[C] I, II, and III                      [D] II only  
[E] I and III
10. The measures of the angles of a quadrilateral are  $x + 15$ ,  $2x$ ,  $x - 45$ , and  $2x - 60$ . What type(s) of quadrilateral could this be?  
I. parallelogram    II. rectangle    III. trapezoid  
[A] III only                      [B] I and II                      [C] II only  
[D] I only                      [E] I and III
11. Which of the following statements are *true*?  
If the sentence is *false*, rewrite it so it is true.  
a. Every rectangle is a quadrilateral.  
b. No parallelogram is a trapezoid.  
c. No rectangle is a square.  
d. No square is a rhombus.
12. Four pennies are placed 2 by 2 to form a square. How many more pennies must be added to form a square 3 by 3?  
[A] 7                      [B] 3                      [C] 5                      [D] 1

[1] trapezoid

[2] rectangle

[3] regular polygons

[4] parallelogram

[5] A

rectangle, square, quadrilateral,  
[6] parallelogram, rhombus

[7] D

[8] A

[9] E

[10] A

a and b are true, c: Some rectangles are  
[11] squares; d: Every square is a rhombus.

[12] C