

*P.I. G.G.69: Investigate, justify, and apply the properties of quadrilaterals in the coordinate plane, using the distance, midpoint, and slope formulas*

1. Quadrilateral  $ABCD$  has vertices  $A(1, 1)$ ,  $B(5, 2)$ ,  $C(6, -2)$ , and  $D(2, -3)$ . Classify the quadrilateral.

2. Use slope and/or the distance formula to determine the most precise name for the figure:  $A(-6, -3)$ ,  $B(1, 0)$ ,  $C(4, 7)$ ,  $D(-3, 4)$ .

[A] kite                      [B] rectangle  
[C] square                 [D] rhombus

3. Use slope and/or the distance formula to determine the most precise name for the figure:  $A(-6, -7)$ ,  $B(-4, -2)$ ,  $C(2, -1)$ ,  $D(0, -4)$ .

[A] rectangle              [B] quadrilateral  
[C] square                 [D] rhombus

4. Use slope and/or the distance formula to determine the most precise name for the figure:  $A(-5, -6)$ ,  $B(2, 0)$ ,  $C(11, 9)$ ,  $D(4, 3)$ .

[A] parallelogram        [B] kite  
[C] rhombus                [D] trapezoid

5. Use slope and/or the distance formula to determine the most precise name for the figure:  $A(-3, -5)$ ,  $B(4, -2)$ ,  $C(7, -9)$ ,  $D(0, -12)$ .

[A] square                 [B] rhombus  
[C] trapezoid              [D] kite

It is a square because all four angles are  $90^\circ$  and all four sides are  $\sqrt{17}$  in length. (Slope of  $\overline{AB}$

[1] and  $\overline{CD}$  is  $1/4$  and slope of  $\overline{BC}$  and  $\overline{AD}$  is  $-4$  .)

[2] D

[3] B

[4] A

[5] A