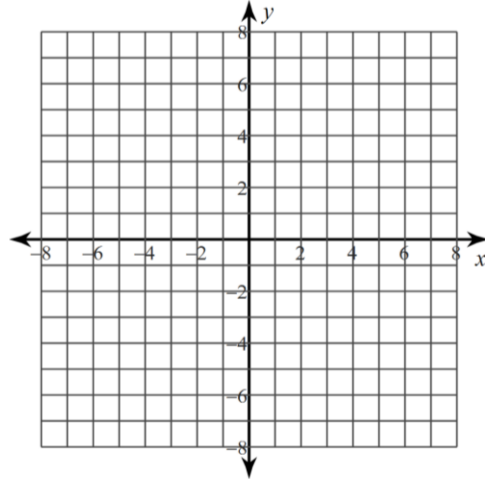
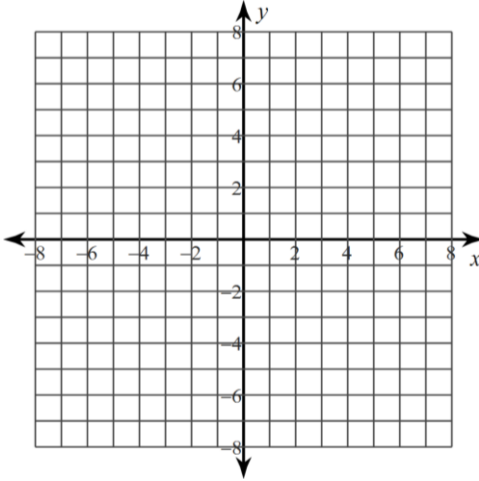


# 10.7.D2 • Quadrilaterals on the Coordinate Plane

Graph the quadrilateral described. Use the diagonals to determine whether a parallelogram with the given vertices is a rectangle, rhombus, or square. **Show all work on a separate sheet of paper.** Explain why the parallelogram is a rectangle, rhombus, or square.

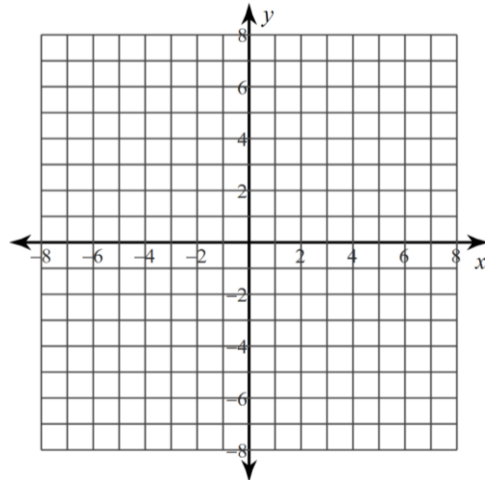
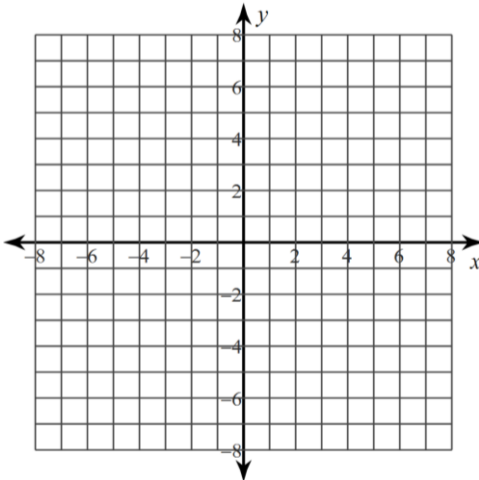
1.  $P(-5, 2), Q(4, 5), R(6, -1), S(-3, -4)$

2.  $W(-6, 0), X(1, 4), Y(2, -4), Z(-5, -8)$

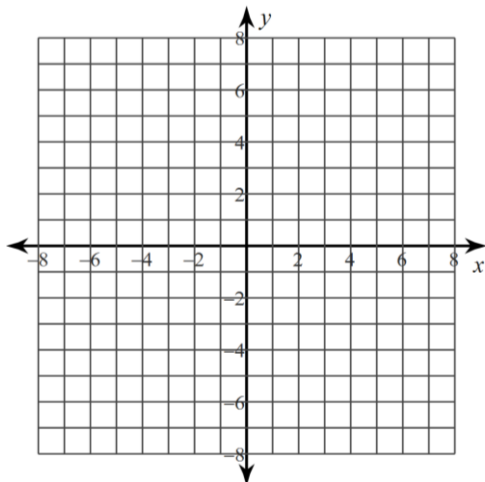


3.  $A(-4, 0), B(-2, 6), C(4, 4), D(2, -2)$

4.  $J(1, -3), K(3, -4), L(6, 2), M(4, 3)$



5.  $F(0, 0), G(5, 5), H(8, 4), I(7, 1)$

Show that  $FGHI$  is a kite by its definition.

Use the given information to determine if quadrilateral  $ABCD$  can best be described as a rectangle, square, rhombus, trapezoid, or none of these. Explain your reasoning.

6. Side lengths:  $AB = \sqrt{20}, BC = \sqrt{45}, CD = \sqrt{20}, DA = \sqrt{45}$

Slope of  $\overline{AB} = -2$       Slope of  $\overline{BC} = \frac{1}{2}$

Slope of  $\overline{CD} = -2$       Slope of  $\overline{DA} = \frac{1}{2}$

7. Side lengths:  $AB = \sqrt{13}, BC = \sqrt{13}, CD = \sqrt{13}, DA = \sqrt{13}$

Slope of  $\overline{AB} = -\frac{3}{2}$       Slope of  $\overline{BC} = 1$

Slope of  $\overline{CD} = -\frac{3}{2}$       Slope of  $\overline{DA} = 1$

8. Side lengths:  $AB = \sqrt{13}, BC = \sqrt{17}, CD = \sqrt{52}, DA = \sqrt{10}$

Slope of  $\overline{AB} = \frac{2}{3}$       Slope of  $\overline{BC} = -\frac{1}{4}$

Slope of  $\overline{CD} = \frac{2}{3}$       Slope of  $\overline{DA} = -3$

9. Side lengths:  $AB = \sqrt{14}, BC = \sqrt{14}, CD = \sqrt{14}, DA = \sqrt{14}$

Slope of  $\overline{AB} = \frac{1}{8}$       Slope of  $\overline{BC} = -8$

Slope of  $\overline{CD} = \frac{1}{8}$       Slope of  $\overline{DA} = -8$

