

1. Complete the table by writing yes or no in each empty space.

	Kite	Isosceles Trapezoid	Parallelogram	Rhombus	Rectangle
Each Pair of opposite sides parallel					
Opposite sides congruent					
Opposite Angles Congruent					
Diagonals Bisect Each other					
Diagonals are Perpendicular					
Diagonals are congruent					
Diagonals are angle bisectors					

Replace each blank with always, sometimes or never.

- A Rectangle \_\_\_\_\_ has four right angles.
- The diagonals of a parallelogram \_\_\_\_\_ bisect the opposite angles.
- The two legs of a trapezoid are \_\_\_\_\_ congruent.
- A parallelogram \_\_\_\_\_ has only one pair of opposite sides parallel.

6. Given segment  $\overline{AB}$  has endpoints A (-2, -4) and B (5, 7). Find the length of  $\overline{AB}$ , the slope of  $\overline{AB}$ , and the midpoint of  $\overline{AB}$ .

7. The slope of line  $l$  is  $\frac{2}{3}$ . What is the slope of the line  $m$ , if line  $m$  is parallel to  $l$ ?  
What is the slope of line  $t$  if line  $t$  is perpendicular to line  $l$ ?

Given points A, B, C, and D. Tell whether  $\overline{AB}$  and  $\overline{CD}$  are parallel, perpendicular, or neither.

8. A(0,0), B(4, -4), C(2, -2), D(5, 1)

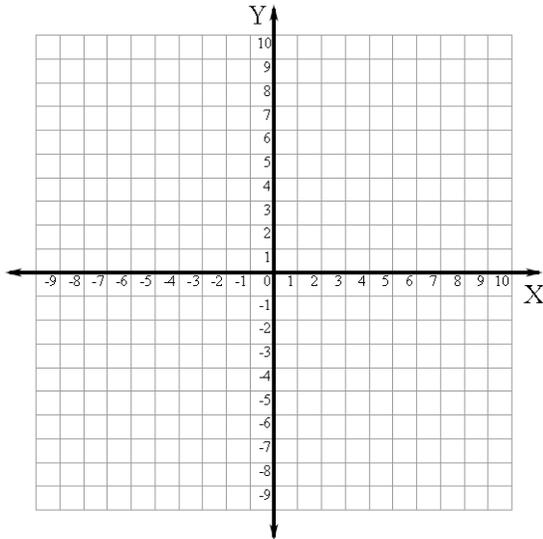
9. A(-1, 1), B(3, 3), C(1, 2), D(3, -3)

10. A(3, 1), B(5, 4), C(1, 4), D(-1, 1)

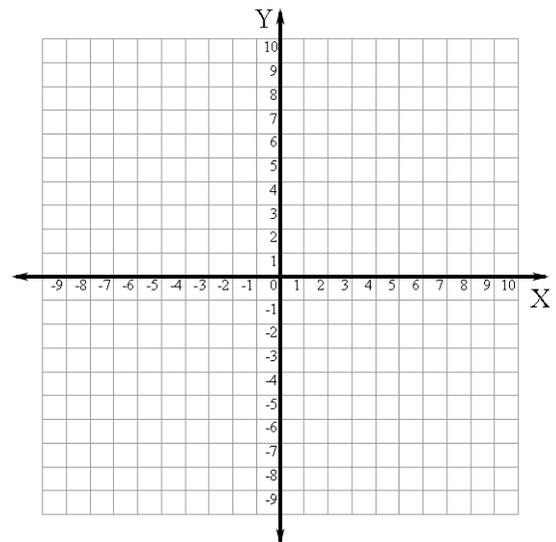
11. A(3, -2), B(3, 7), C(5, 2), D(-8, 2)

For problems 12-14 classify each quadrilateral as a parallelogram, rectangle, rhombus, square, kite, trapezoid, or isosceles trapezoid.

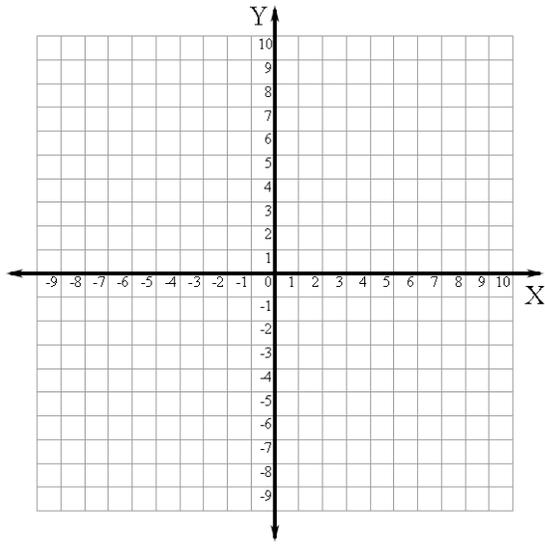
12. W (-4, -2), X (5, 4), Y (7, 1), Z (-2, -5)



13. a. M (-3,2), A (-1, 6), T (1, 0), H (-1, -4)



14. a. F (-2, 3), I (3, 4), S (4, -1), H (-1, -2)



Write the equation of a circle with the given information.

15. Center (-2, -6) and the diameter is 22
16. Center is at (5, -3) and the point (-1, 2) is on the circle.
17. The endpoints of the diameter are (1, -1) and (3, 5).

18. Sketch a graph of the circle with the given equation  
 $(x + 3)^2 + (y - 2)^2 = 9$

