Name: Due Date: Teacher: Parent Sign:

1. Plot A(1,1), B(5,1), C(4,4), D(0,4). Sketch quadrilateral ABCD. Is it a parallelogram, rectangle, or other? Explain briefly.

2. Plot A(0,0), B(4,0), C(4,3), D(0,3). Name the shape and find its area.

3. Plot P(2,2), Q(6,2), R(6,7), S(2,7). Find the perimeter and area of PQRS.

4. Draw the quadrilateral with vertices A(-1,0), B(3,0), C(2,4), D(-2,4). Is it a trapezoid? If yes, identify the pair of parallel sides.

5. Plot points A(0,1), B(4,1), C(6,4), D(2,4). Sketch the quadrilateral and say whether opposite sides are parallel.

6. Parallelogram ABCD has vertices A(1,1), B(6,1), C(8,4), D(3,4). What is the base length AB and the height? Then find its area.

7. On the grid, parallelogram WXYZ has W(0,0), X(5,0), Y(7,3), Z(2,3). Compute its area.

8. Find the area of parallelogram with vertices A(2,2), B(7,2), C(9,5), D(4,5).

9. A parallelogram has vertices at (0,1), (4,1), (6,4), (2,4). What is its area?

10. Parallelogram LMNO has L(-2,1), M(3,1), N(5,4), O(0,4). Find base and height and area.

11. Given triangle made from points (1,1), (4,1), (1,5), explain how you could use that triangle to help find area of a rectangle or parallelogram on the grid.

12. Parallelogram with vertices (0,0), (4,0), (6,2), (2,2). Compute its area.

13. Three vertices of a rectangle are A(2,3), B(7,3), C(7,8). Find the coordinates of the fourth vertex D.

14. Given three vertices of a rectangle P(0,0), Q(5,0), R(5,3). Find S.

15. In rectangle ABCD, A(-1,-1), B(3,-1), C(3,2). Find D.

16. A rectangle has vertices (2,1), (7,1), (7,6). What is the missing vertex?

17. You are given three vertices of a parallelogram: A(1,2), B(5,2), C(6,6). Find D so that ABCD is a parallelogram.

18. Find the missing vertex of the parallelogram with vertices P(-1,0), Q(4,0), R(6,3).

19. Given vertices of a parallelogram E(0,2), F(4,2), G(5,5). Find H.

20. Rectangle with vertices (-3,2), (1,2), (1,6). Find the fourth vertex.

21. On the coordinate plane, which shape are the points A(0,0), B(4,0), C(4,4), D(0,4) forming? Is it a square or rectangle? Explain.

22. Points given: A(1,1), B(5,1), C(6,4), D(2,4). Classify the quadrilateral (rectangle, trapezoid, parallelogram, kite, rhombus, or none).

23. Identify the shape formed by points A(0,0), B(3,4), C(6,0), D(3,-4). What special property does it have?

24. The points A(0,0), B(4,2), C(8,0), D(4,-2) are plotted. What kind of quadrilateral is this?

25. Points of a quadrilateral: A(1,2), B(4,5), C(7,2), D(4,-1). What is the center (intersection of diagonals) of this quadrilateral?

26. Which shape do points (2,2), (6,2), (6,6), (2,6) make? Find side length and area.

27. Points A(0,0), B(5,0), C(5,3), D(0,3). If the axes are each 1 unit, how many square units is the shaded region inside ABCD? (same as area)

28. The points A(0,0), B(3,0), C(4,3), D(1,3) are drawn. What type of quadrilateral is ABCD?

29. Points A(0,0), B(4,0), C(6,3), D(2,3) are plotted. Are opposite sides equal and parallel? If yes, name the quadrilateral.

30. Given points A(1,1), B(4,1), C(4,4), D(1,4). Find the area and perimeter.

31. Rectangle corners are at (-2,3), (4,3), (4,7), (-2,7). What are its length and width? Compute area and perimeter.

32. Given rectangle with vertices P(0,1), Q(6,1), R(6,4), S(0,4). What is the length, width, and area?

33. A rectangle has corners at (1,2), (8,2), (8,5), (1,5). Find its dimensions and area.

34. Rectangle A(-1,-2), B(4,-2), C(4,1), D(-1,1). Find center point (midpoint of diagonals).

35. Given rectangle with vertices (2,0), (7,0), (7,3), (2,3). A small square is formed by connecting midpoints of each side. What are the coordinates of the midpoint on side from (2,0) to (7,0)? (single midpoint question)

36. Rectangle has vertices (0,0), (5,0), (5,4), (0,4). A point E is inside at (3,2). Is E the center? Explain how to check.

37. A rectangle with coordinates (1,1), (6,1), (6,4), (1,4). If you translate it right by 3 and up by 2, what are the new coordinates of (1,1) and (6,4)?

38. Given rectangle corners (-3,-1), (2,-1), (2,2), (-3,2). What is its area? If you double both length and width (scale by factor 2) about the origin, what will the new area be?

39. Rectangle has vertices A(1,2), B(7,2), C(7,5), D(1,5). Find the coordinates of the center (intersection of diagonals).

40. A rectangle has vertices (-2,0), (3,0), (3,3), (-2,3). Find the coordinates of the four vertices after reflecting across the y-axis.

41. Given rectangle with vertices (0,0), (6,0), (6,2), (0,2). What are the coordinates of the midpoints of all four sides?

42. A rectangle on the coordinate plane has one vertex at (4,1) and opposite vertex at (9,6). What are the coordinates of the other two vertices assuming sides are parallel to the axes?

43. You are given rectangle with corners (2,2), (7,2), (7,9), (2,9). What are its dimensions? If you divide it into 14 equal smaller rectangles by drawing lines parallel to the sides, what would each small rectangle's area be?

44. Rectangle has vertices (0,0), (8,0), (8,3), (0,3). Point P is the midpoint of diagonal from (0,0) to (8,3). Find coordinates of P.

45. Parallelogram ABCD has A(1,0), B(5,0), D(2,3). Find coordinates of C.

46. Parallelogram with A(0,2), B(3,2), D(1,5). Find C. Then compute the area of the parallelogram.

47. Parallelogram has vertices P(-1,1), Q(3,1), R(5,4), S(1,4). Find its area.

48. Given parallelogram with coordinates A(2,0), B(6,0), C(8,3), D(4,3). Compute base, height, and area.

49. Parallelogram with vertices (0,0), (4,0), (7,3), (3,3). If you move each vertex up by 2 units, what is the area of the new parallelogram?

50. Given parallelogram with vertices (1,1), (5,1), (7,4), (3,4). A point inside is the intersection of diagonals. Find the coordinates of that intersection point.