Name: **Date:**

Scaffolded Practice: Using Coordinates to Prove Geometric Theorems with Slope and Distance

For problems 1–3, determine if the four points given constitute a rectangle. Use the slopes of the lines to justify your answer.

1. $A(3, 2)$, $B(1, 2)$, $C(1, 4)$, $D(3, 4)$

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

3. $A(0, 2)$, $B(1, 0)$, $C(5, 1)$, $D(4, 3)$

For problems 4–6, solve for the distance between the given points.

4. $A(2, 3)$, $B(4, 1)$

5. $A(-3, 5)$, $B(1, 9)$

6. $A(-5, 2)$, $B(0, 6)$

continued

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For problems 7 and 8, determine if the points form a parallelogram. Explain why or why not.

7. $A(0, 2)$, $B(3, 0)$, $C(0, 5)$, $D(3, 7)$

8. $A(0, 0)$, $B(5, 7)$, $C(10, 0)$, $D(15, 7)$

For problems 9 and 10, determine if the given points form a right triangle. Use the slopes of the lines to justify your answer.

9. $A(0, 0)$, $B(2, 2)$, $C(2, 0)$

10. $A(1, 1)$, $B(-2, 0)$, $C(3, 0)$