Name: **Date:**

Practice: Working with Parallel and Perpendicular Lines A

Write the slope-intercept form of an equation for the line that passes through the given point and is parallel to the graph of the given equation.

1. (3, 1) and $4x + 2y = 10$

2. (–5, 6) and $12x + 9y = 3$

Write the slope-intercept form of an equation for the line that passes through the given point and is perpendicular to the graph of the given equation.

3. (–4, –3) and $8x + 2y = 14$

4. (–6, 5) and $2x - 2y = 10$

Calculate the shortest distance from the given point to the line indicated.

5. (2, 1) to $x - y = -1$

continued

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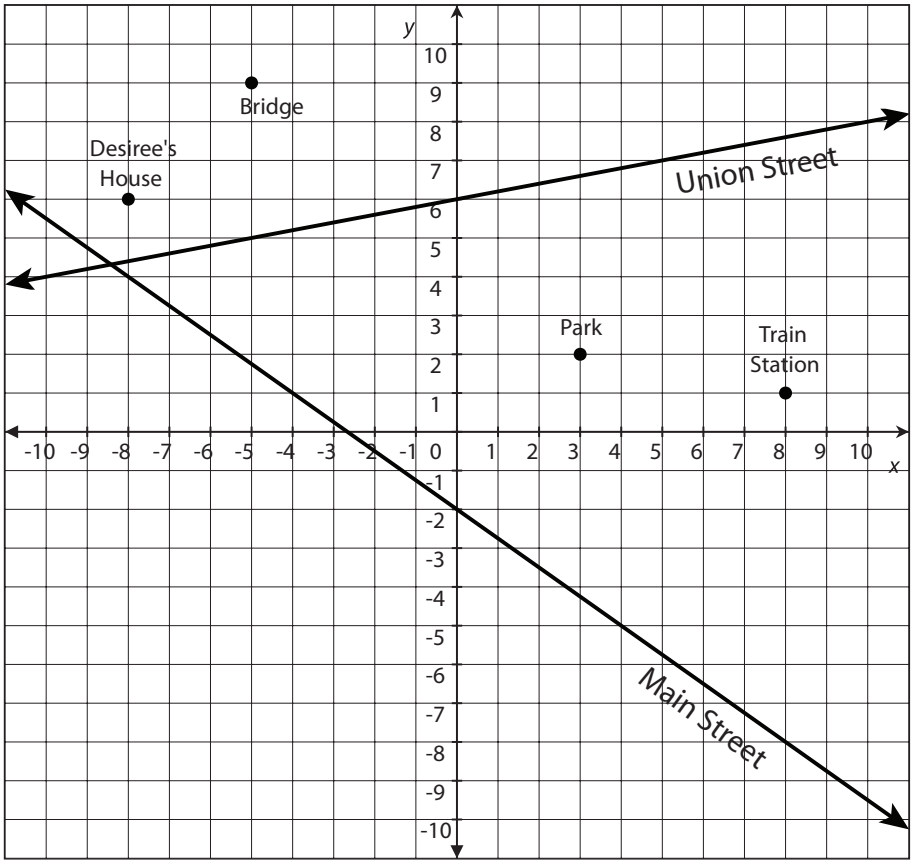
For questions 6–10, refer to the following map. Each unit represents 100 yards.



6. Main Street is given by the equation $y = -\frac{3}{4}x - 2$. The train station is located at the point (8, 1). What is the equation of the line that represents the train tracks that run parallel to Main Street through the point (8, 1)?

7. Desiree's house is located at the point (–8, 6). Her driveway is perpendicular to Union Street, which is represented by the equation $y = \frac{1}{5}x + 6$. What is the equation of the line that represents Desiree's driveway?

continued

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8. Little River runs parallel to Union Street. There is a bridge located at the point (–5, 9). What is the equation of the line that represents Little River?

9. The center of the park is located at the point (3, 2). A walking trail starting at this point runs perpendicular to Main Street. What is the equation of the line that represents the walking trail?

10. What is the shortest distance from the train station to Union Street?

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