Name: **Date:**

Practice: Working with Parallel and Perpendicular Lines B

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. $(1, -5)$ and $6x - 2y = -8$

2. $(-8, 2)$ and $x + 4y = -2$

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. $(0, 7)$ and $9x + 3y = 12$

4. $(3, -4)$ and $5x - 10y = 30$

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

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

continued

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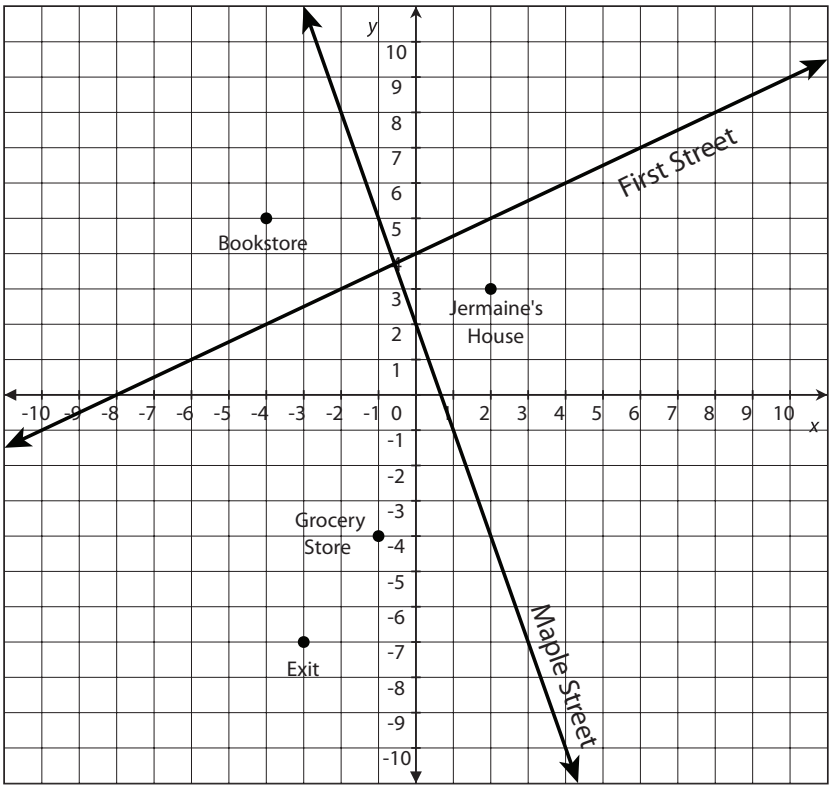
For questions 6–10, refer to the following map. Each unit represents 100 yards.



6. First Street is given by the equation $y = \frac{1}{2}x + 4$. The grocery store is located on Second Street at the point (–1, –4). What is the equation of the line that represents Second Street that runs parallel to First Street through the point (–1, –4)?

7. Jermaine's house is located at the point (2, 3). His driveway is perpendicular to Maple Street, which is represented by the equation $y = -3x + 2$. What is the equation of the line that represents Jermaine's driveway?

continued

8. The highway runs parallel to Maple Street. There is an exit located at the point (–3, –7). What is the equation of the line that represents the highway?

9. A bookstore is located at the point (–4, 5). The street the bookstore is located on is perpendicular to First Street. What is the equation of the line that represents the street that leads from the bookstore to First Street?

10. What is the shortest distance from the grocery store to Maple Street?