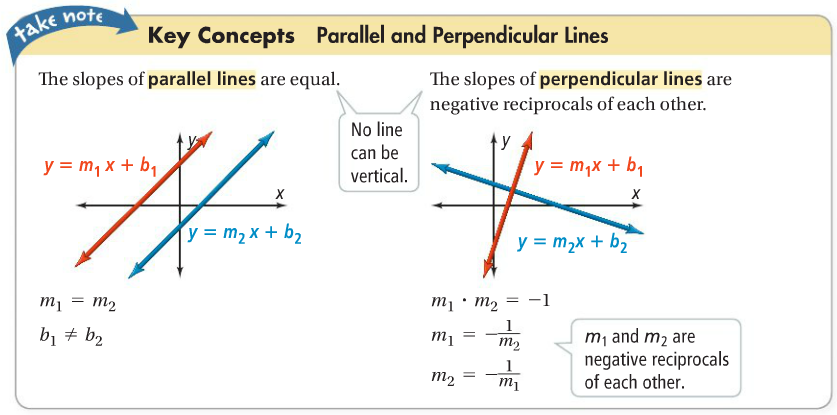
**Section 2–4C: Parallel and Perpendicular Lines**

If you travel along a line that is parallel to a given line, you will stay the same distance from the given line. If you travel along a line that is perpendicular to a given line, you will travel either toward or away from the given line along the most direct path.



**Example 1: Writing Equations of Parallel and Perpendicular Lines**

What is the equation of each line in slope-intercept form?

1. the line parallel to through

Parallel lines have the same slope.

Use point-slope form; substitute and .

Distributive Property.

Write in slope-intercept form by subtracting from each side.

1. the line perpendicular to through

**Question: How can you find the slope of a perpendicular line?**

Slopes of perpendicular lines are negative reciprocals, so use the equation .

The slopes of perpendicular lines are negative reciprocals.

Use point-slope form; substitute and .

Distributive Property.

Write in slope-intercept form by adding 5 from each side.