

Common Core Standards - Resource Page

The resources below have been created to assist teachers' understanding and to aid instruction of this standard.

Domain	Standard: G.GPE.5 - Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).
<p><u>Expressing Geometric Properties with Equations</u> Use coordinates to prove simple geometric theorems algebraically</p>	<p><u>Questions to Focus Learning</u> What is the relationship between slopes of perpendicular and parallel lines? The slopes of two lines can describe the angle between them.</p> <p><u>Student Friendly Objectives</u> <i>Knowledge Targets</i></p> <p>I know the slopes of opposite sides of parallelograms are equal. I know the slopes of parallel lines are equal. I know the slopes of perpendicular lines are the opposite reciprocals. I can identify the slope of a line from an equation or graph.</p> <p><i>Reasoning Targets</i></p> <p>I can prove the slopes of opposite sides of parallelograms are equal. I can apply the slope of a parallel or perpendicular line to write a new equation in slope-intercept, point-slope, and standard forms. I can differentiate between slopes (parallel, perpendicular, or neither).</p> <p><u>Vocabulary</u></p> <p>opposite reciprocal parallel perpendicular point-slope form slope slope-intercept form standard form of a linear equation</p>

Teacher Tips

Relate work on parallel lines in G.GPE.5 to work on A.REI.5 involving systems of equations having no solution or infinitely many solutions.

Vertical Progression

G.GPE.6 - Find the point on a directed line segment between two given points that partitions the segment in a given ratio.

The above information and more can be accessed for free on the [Wiki-Teacher](#) website.

Direct link for this standard: [G.GPE.5](#)