The Common Denominator

A Family Math Newsletter

Geometry Unit 4: Parallel and Perpendicular Lines

Unit at a Glance

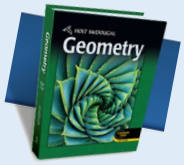
Parallel and Perpendicular Lines play an important role in the formation of two and three-dimensional objects. This unit reviews and expands the concepts of parallel and perpendicular lines by giving students the tools to create and verify the geometric relationships between these concepts using transversals and the angles formed by them. Students will investigate and generalize the relationships between angles formed when parallel lines are cut by a transversal and ultimately use these relationships to construct parallel lines and prove that they are parallel. The following topics will be studied:

Topic	Length	Geometry Text Section(s)
Topic A: Lines and Angles	Academic: 1 (90-minute) lesson Honors: 1 (90-minute) lesson	3.1
Topic B: Angles Formed by Parallel Lines & Transversals	Academic: 1.5 (90-minute) lessons Honors: 1.5 (90-minute) lessons	3.2
Topic C: Proving Lines Parallel	Academic: 2 (90-minute) lessons Honors: 2 (90-minute) lessons	3.3
Topic D: Perpendicular Lines	Academic: 1 (90-minute) lesson Honors: 1 (90-minute) lesson	3.4
Topic E: Slope & Lines in the Coordinate Plane	Academic: 1 (90-minute) lesson Honors: 1 (90-minute) lesson	3.5 – 3.6

Resource Toolkit

Homework Help

Digital resources exist in the HMH online textbook that can support student learning outside of the classroom. To access these resources, students can log into HMH through BCPSone Digital Content, then select "Student Resources". The "Homework Helper" resource has a mini-lesson, then guided practice problems for students to complete that can help reinforce concepts that were learned in class. Also, check the "Videos & Activities" section where other beneficial resources can be found.



Khan Academy Videos

Topic A: Angles, Parallel Lines, and Transversals
Topic B: Measures of Angles Formed by a Transversals
Topic C and D: Parallel and Perpendicular Lines
Topic E: Parallel Lines from Equation and Perpendicular Lines from Equation

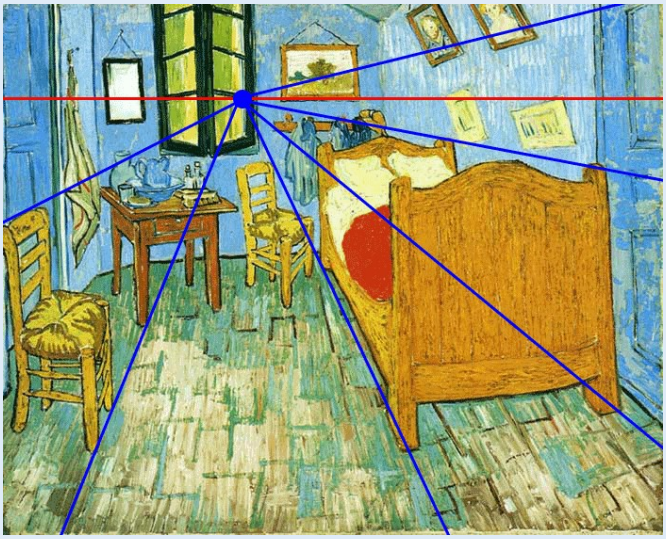
Exploring Mathematics

Conversations at Home

Discussion prompt: Identify areas in your life where parallel and perpendicular lines exist. Why are so many lines in the world parallel and perpendicular to each other?

Real-world Connections

Watch this video from YouTube on How to Draw Using 1-Point Perspective. Consider drawing your own picture using this technique



"We are on parallel paths with the planet. The wants and needs of marine wildlife are our own: we want connection, companionship, a healthy clean environment."

– Adrian Grenier