MATHEMATICS · GRADES 4-6

Parallel and perpendicular lines

Difficulty level: Intermediate

Mathematics: Grades 4-6

This document was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

Overview of the concept

This is how you describe lines around you, like the parallel rails of a train track and the perpendicular corners of a book page. The rails stay the same distance apart for the whole journey, and the edges of a page meet at a square corner. Window frames, fence posts, and floor tiles are all built on the same two ideas. Spotting parallel and perpendicular lines in real objects is how you start reading the geometry of the world around you.



Rule

Parallel lines run in the same direction and never meet, no matter how far you extend them.

Perpendicular lines cross at a right angle, shown by a small square at the crossing.

© 2026 Brett Robbins. All Rights Reserved.

Worked examples

EXAMPLE 1

Q Are these lines parallel? Two lines that never meet, same direction

SOLUTION

Never meet -> Parallel

Check the direction: both run the same way.

Check whether they would ever meet if extended: they would not.

Lines that never meet are parallel.

EXAMPLE 2

Q Are these lines perpendicular? One vertical, one horizontal, crossing at a square corner



SOLUTION

Check where they cross: a square corner mark.

Lines crossing at a right angle are perpendicular.

So the answer is perpendicular.

© 2026 Brett Robbins. All Rights Reserved.

Practice questions

1 Are the two rails of a train track parallel or perpendicular?

- A Parallel
- B Perpendicular

Understand It with Pulse | Flag a mistake

2 Are the two edges meeting at the corner of a book page parallel or perpendicular?

- A Parallel
- B Perpendicular

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

3 Are the two sides of a hallway parallel or perpendicular?

- A Perpendicular
- B Parallel

Understand It with Pulse | Flag a mistake

4 Is a fence post perpendicular to the ground, or parallel to it?

- A Perpendicular
- B Parallel

Understand It with Pulse | Flag a mistake

5 Are the ruled lines on a notebook page parallel or perpendicular?

- A Parallel
- B Perpendicular

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

6 **At 3 o'clock, are the hands of a clock parallel or perpendicular?**

A Parallel

B Perpendicular

Understand It with Pulse | Flag a mistake

7 **Are the two side rails of a ladder parallel or perpendicular?**

A Perpendicular

B Parallel

Understand It with Pulse | Flag a mistake

8 **Are the two edges meeting at the corner of a door frame parallel or perpendicular?**

A Perpendicular

B Parallel

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

9

Are the white stripes of a zebra crossing parallel or perpendicular?

A Parallel

B Perpendicular

Understand It with Pulse | Flag a mistake

10

A road crosses another road at a square corner. Are the two roads parallel or perpendicular?

A Parallel

B Perpendicular

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

ANSWER KEY

1. Parallel

2. Perpendicular

3. Parallel

4. Perpendicular

5. Parallel

6. Perpendicular

7. Parallel

8. Perpendicular

9. Parallel

10. Perpendicular

© 2026 Brett Robbins. All Rights Reserved.