

115. Geometry & Trigonometry – Angle Facts: Parallel Lines

Practice Questions

1. What is the name of the angle rule where two opposite angles are equal when two parallel lines are crossed by a transversal?
2. What is the name of the angle rule where two angles on the same side of the transversal add up to 180° ?
3. Two corresponding angles are given as x° and 72° . Find x .
4. Two alternate angles are given as y° and 58° . Find y .
5. Two interior angles are given as 120° and z° . Find z .
6. In a diagram, a straight line crosses two parallel lines, forming an angle of 50° with one of the parallel lines. Find the corresponding angle.
7. A transversal crosses two parallel lines, forming an 80° angle on one side. Find the alternate angle.
8. A line cuts two parallel lines, forming a 65° corresponding angle. Find the vertically opposite angle to this.
9. A straight line intersects two parallel lines, forming an 85° angle. Find the co-interior angle on the same side.
10. A pair of parallel railway tracks are crossed by a diagonal bridge. The bridge makes a 40° angle with one of the tracks. Find the alternate angle on the opposite side.



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Scenario Questions

1. A ladder leans against a wall, making a 65° angle with the ground. If a parallel support beam is positioned further up the wall, what angle does it make with the ground?
2. A railway track runs parallel to a motorway. A road bridge crosses both at a 75° angle. Find the corresponding angle on the other side of the motorway.
3. A large bookshelf is supported by diagonal beams that cross parallel horizontal shelves. If one beam makes a 55° angle with the shelf, what is the alternate angle on the other side of the beam?
4. A roof has two parallel beams with a supporting crossbeam forming a 110° angle with one of the parallel beams. Find the co-interior angle on the same side of the crossbeam.
5. A road sign shows two parallel lines with a diagonal arrow passing through them at a 60° angle. Find the corresponding and alternate angles formed.
6. A bridge spans a river, supported by two parallel cables. If a diagonal suspension cable creates a 50° angle with the lower cable, what angle does it make with the upper cable?
7. A television antenna is mounted on a roof with two parallel horizontal bars. A diagonal support makes a 45° angle with the lower bar. Find the corresponding angle on the upper bar.
8. A set of parallel train tracks is crossed by a ramp at a 70° angle. What are the alternate and corresponding angles?
9. A triangular structure is placed between two parallel roads. The structure makes a 35° angle with one road. Find the corresponding angle with the other road.
10. A new cycle lane runs parallel to a road. A pedestrian bridge crosses both at a 95° angle. Find the alternate and corresponding angles formed.

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Practice Questions

1. Vertically opposite angles
2. Co-interior angles
3. $x = 72^\circ$
4. $y = 58^\circ$
5. $z = 60^\circ$
6. Corresponding angle: 50°
7. Alternate angle: 80°
8. Vertically opposite angle: 65°
9. Co-interior angle: 95°
10. Alternate angle: 40°

Scenario Questions

1. Angle with the ground: 65°
2. Corresponding angle: 75°
3. Alternate angle: 55°
4. Co-interior angle: 70°
5. Corresponding angle: 60° ; Alternate angle: 60°
6. Angle with the upper cable: 50°
7. Corresponding angle: 45°
8. Alternate angle: 70° ; Corresponding angle: 70°
9. Corresponding angle: 35°
10. Alternate angle: 95° ; Corresponding angle: 95°