

## 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  $180^\circ$ ?
3. Two corresponding angles are given as  $x^\circ$  and  $72^\circ$ . Find  $x$ .
4. Two alternate angles are given as  $y^\circ$  and  $58^\circ$ . Find  $y$ .
5. Two interior angles are given as  $120^\circ$  and  $z^\circ$ . Find  $z$ .
6. In a diagram, a straight line crosses two parallel lines, forming an angle of  $50^\circ$  with one of the parallel lines. Find the corresponding angle.
7. A transversal crosses two parallel lines, forming an  $80^\circ$  angle on one side. Find the alternate angle.
8. A line cuts two parallel lines, forming a  $65^\circ$  corresponding angle. Find the vertically opposite angle to this.
9. A straight line intersects two parallel lines, forming an  $85^\circ$  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  $40^\circ$  angle with one of the tracks. Find the alternate angle on the opposite side.

## 115. Geometry & Trigonometry – Angle Facts: Parallel Lines

### Scenario Questions

1. A ladder leans against a wall, making a  $65^\circ$  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  $75^\circ$  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  $55^\circ$  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  $110^\circ$  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  $60^\circ$  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  $50^\circ$  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  $45^\circ$  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  $70^\circ$  angle. What are the alternate and corresponding angles?
9. A triangular structure is placed between two parallel roads. The structure makes a  $35^\circ$  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  $95^\circ$  angle. Find the alternate and corresponding angles formed.

## 115. Geometry & Trigonometry – Angle Facts: Parallel Lines

### 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:  $50^\circ$
7. Alternate angle:  $80^\circ$
8. Vertically opposite angle:  $65^\circ$
9. Co-interior angle:  $95^\circ$
10. Alternate angle:  $40^\circ$

### Scenario Questions

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