Geometry
Unit: Introduction to Geometry
Section: Parallel and Perpendicular Lines

Example: Perpendicular Lines

Problem:

The segments AB and CD are perpendicular, find x plus y. One angle at which the lines intersect is labeled two x plus y and the angle next to it is labeled four x plus 10.

Solution:

Since the segments are perpendicular, two x plus y equals 90 and four x plus 10 equals 90.

Solve the second equation for x. Subtract 10 from both sides. Four x plus 10 minus 10 equals 90 minus 10. Four x equals 80.

Divide by 4. x equals 20.

Substitute this value of x into the first equation. Two times twenty plus y equals 90.

Forty plus y equals 90. y equals 50

Answer the question that was asked. X plus y equals 20 plus 50 equals 70.