

3.9

PARALLEL AND PERP. LINES IN THE COORDINATE PLANE

Exploring...

Parallel Slope Theorem



POK

In a coordinate plane, two distinct lines are _____ if and only if their slopes are _____.

Perpendicular Slope Theorem



POK

In a coordinate plane, two lines are _____ if and only if their slopes are _____.

Practice

1. One endpoint of \overline{AB} is $A(-3, 10)$. The midpoint is $(5, 6)$. Find the coordinates of the other endpoint.

Practice

2. Find the slope of the line through $(3, 7)$ and $(9, -8)$.
Slope =

Practice

3. One line passes through $(-1, -4)$ and $(2, -10)$. Find the slope of a parallel line.

Slope =

Practice

4. $A(-1, 1)$, $B(4, -1)$, $C(3, 4)$ and $D(-1, 6)$ are the vertices of quadrilateral ABCD. Are the diagonals of ABCD perpendicular? (Draw a sketch and follow through with work to help you find out.)

Practice

5. Write an equation of the line passing through the point $(-1,1)$ this parallel to the line $y=2x-3$.

Practice

6. Write an equation of the line passing through the point $(2,3)$ this perpendicular to the line $2x + y = 2$.

Practice

7. Find the equation of the perpendicular bisector of the segment with endpoints of $(2, 9)$ and $(-6, -7)$.