4-4 Notes: Parallel and Perpendicular Lines

Parallel Lines

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Example: Write an equation in slope-intercept form for the line that passes through (–1, 6) and is parallel to the graph of $y = 2x + 12$.

Example: Find the slope intercept form of the line parallel to the function 3x – 4y = 9 and contains the point (-4, 7).

Example: Given the points A (-3, 5) B (4, 5) C (1, 1) and D (-6, 1) represent quadrilateral ABCD, are any of the sides parallel?

Slope of AB

Slope of BC

Slope of CD

Slope of AD

Perpendicular Lines

Example: Write an equation in slope-intercept form for the line that passes through (–4, 2) and is perpendicular to the graph of $2x - 3y = 9$.

Example: Write the equation of the perpendicular bisector of segment AB if A (-4, 10) and B (2, -4).

1) Perpendicular Slope

2) Midpoint

3) Substitute the perpendicular slope and midpoint you found into the point-slope formula, then reduce to slope-intercept form.