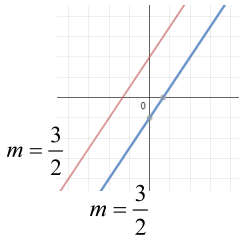
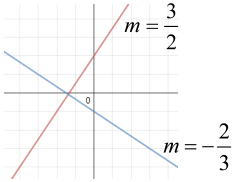
A1 notes 5.6

Parallel and Perpendicular Lines

Lines are parallel (||) if they have the same slope and a different y-intercept.



Lines are perpendicular (⊥) if their slopes have a product of -1. (Slopes are opposite reciprocals.)



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Are the graphs of the following lines parallel, perpendicular, or neither?

1) $y = \frac{4}{7}x - 5$

$y + 3 = \frac{4}{7}(x - 4)$

2) $y = -\frac{1}{7}x - 5$

$y = -7x + 8$

3) $4x + 8y = 11$

$y - 1 = 2(x + 3)$

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4) A line passes through the point (4, -7) and is **parallel** to the line $y = \frac{2}{3}x - 7$.
Find the equation for the line in slope-intercept form.

5) A line passes through the point (-5, -1) and is **perpendicular** to the line $4x - 2y = 12$.
Find the equation for the line in slope-intercept form.

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6) Find the equation for the line that is **parallel** to y = 8 and passes through the point (7, -5).

7) Find the equation for the line that is **perpendicular** to x-axis and passes through the point (7, -5).