Name: _____   Date: _____

4.3 Writing Equations of Parallel and Perpendicular Lines

Essential Question: _____

_____

Parallel Lines and Slopes

Two lines in the same _____ that _____ intersect are parallel lines. Nonvertical lines are

_____ if and only if they have the _____ slope.

All _____ lines are _____.

Write an equation of the line that passes through $(5, -4)$ and is parallel to
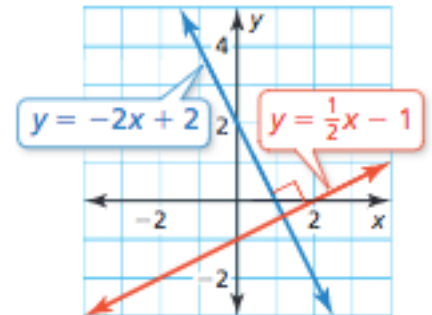the line $y = 2x + 3$.

1. Line a passes through $(-5, 3)$ and $(-6, -1)$. Line b passes through $(3, -2)$ and
   $(2, -7)$. Are the lines parallel? Explain.

2. Write an equation of the line that passes through $(-4, 2)$ and is parallel to
   the line $y = \frac{1}{4}x + 1$.

Perpendicular Lines and Slopes

Two lines in the same _____ that intersect to form _____ angles are

_____ lines. Nonvertical lines are _____ if and only if their slopes are

_____ _____.

Vertical lines are _____ to _____ lines.

$y = -2x + 2$ $y = \frac{1}{2}x - 1$

Write an equation of the line that passes through $(-3, 1)$ and is perpendicular to the line $y = \frac{1}{2}x + 3$.