## Lesson 3.8 Warm Up

1. What is the slope of the line that goes through $(0,4)$ and $(-2,-9)$ ?
2. Graph $y=2 / 3 x+1$
3. Write the equation of the vertical line that goes through the point $(5,10)$.

*Slopes of parallel lines are equal.
*Slopes of perpendicular lines are opposite reciprocals.

Ex. What is the slope of the line that is parallel to $y=3 x-7$ ?

Ex. What is the slope of the line that is perpendicular to $y=1 / 3 x+6$ ?

1 What is the slope of a line perpendicular to

$$
y=3 x-9 ?
$$

2 What is the slope of the line that is parallel to $y-5=9(x-7) ?$

3 The lines $y=5 x-7$ and $y=5 x+12$ are:

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    A parallel
    B perpendicular
    C neither
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4 The lines $y=9$ and $x=12$ are:
A parallel
B perpendicular
$C$ neither

Ex. Write the equation of the line that is parallel to $y=2 x-9$ and goes through the point $(5,-1)$.

Ex. Write the equation of the line that is perpendicular to $y-9=-1 / 3(x-7)$ and goes through the point $(-9,-3)$.

5 Write the equation of the line parallel to $y=2 x+5$ that goes through the point $(4,10)$.

Ex. Put the equation in slope-intercept form. Then decide if the lines are parallel, perpendicular, or neither.
a. $y=3 x-12$ $2 x+y=8$
b. $y-4=1 / 2(x-4)$
$y=-2 x+3$

Sports The baseball field below is on a coordinate grid with home plate at the origin. A batter hits a ground ball along the line shown. The player at $(110,70)$ runs along a path perpendicular to the path of the baseball. What is an equation of the line on which the player runs?


