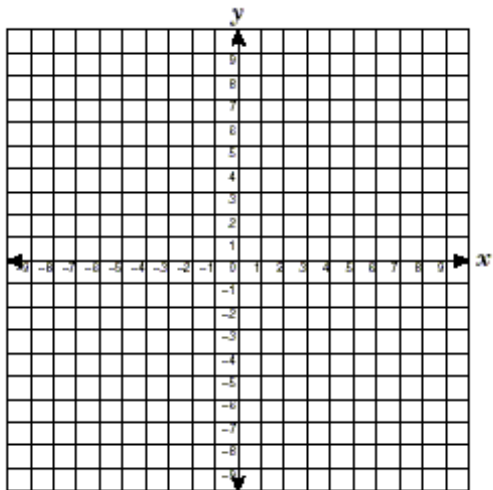# 7.4 Writing Equations of Parallel and Perpendicular Lines

Objective: Become the Lebron James of writing equations of lines

Writing the Equations of Lines

Write the equation of a line with a slope of 2 and goes through point (2,1)

Plug into the equation y = mx + b

$$y = (\quad)x + b$$

$$(\quad) = (\quad)(\quad) + b$$

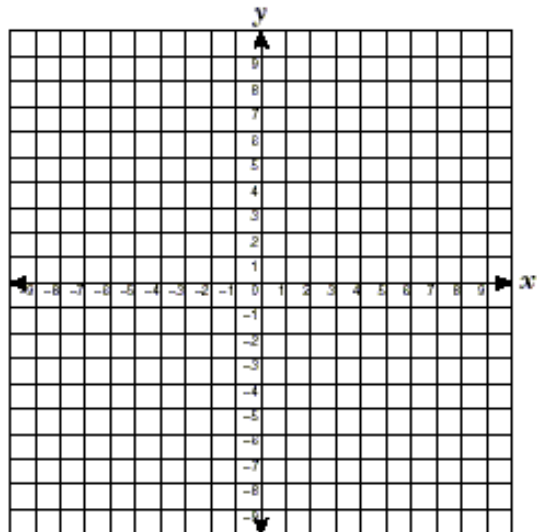Equation

$$y = (\quad)x + (\quad)$$

m   **b**

Write an equation in slope-intercept form for the line that passes through (3, 2) and is parallel to v = 2x +1.

m =

x =

y =

$$y = mx + b$$

$$(\quad) = (\quad)(\quad) + b$$

Solve for me

FINAL ANSWER

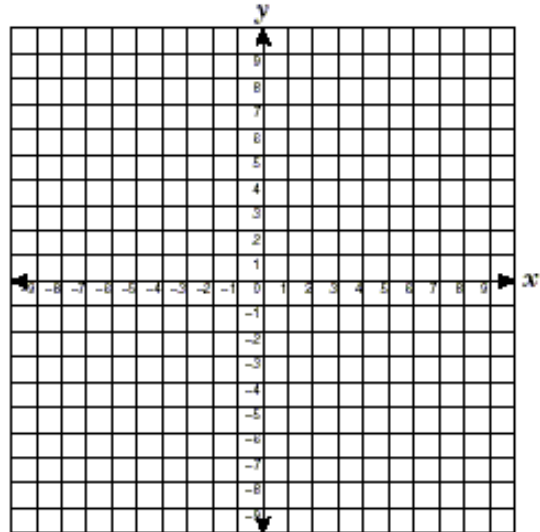$$y = (\quad)x + (\quad)$$

plug m in here   plug b in here

Write an equation in slope-intercept form for the line that passes through (-2, 2) and is perpendicular to $4y = 2x + 8$.

m =

x =

y =

$$y = mx + b$$

$$(\quad) = (\quad)(\quad) + b$$

Solve for me

FINAL ANSWER

plug m in here   plug b in here

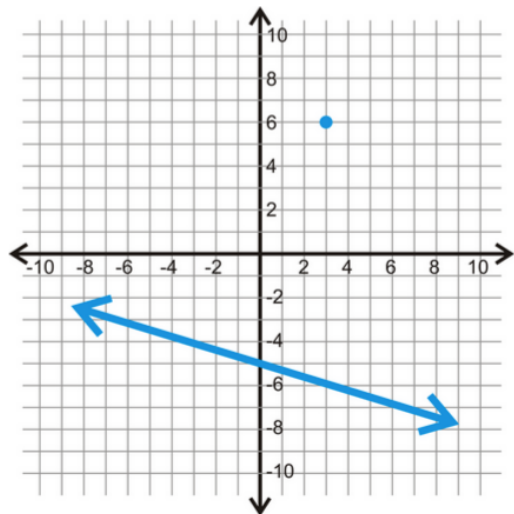
Write the equation of the line going through point P and parallel to the line pictured below

m =

x =

y =

$$y = mx + b$$

$$(\quad) = (\quad)(\quad) + b$$

Solve for me

FINAL ANSWER

plug m in here   plug b in here

Independent Practice

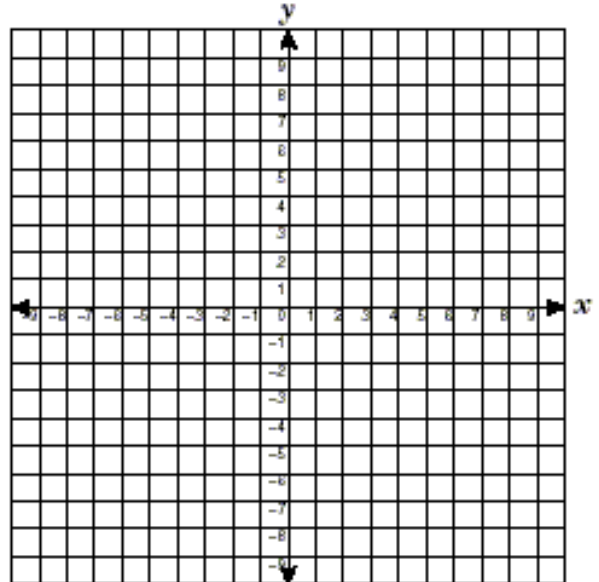1.Write an equation in slope-intercept form for the line that passes through (2, 3) and is **parallel** to y =2x + 1.

m =

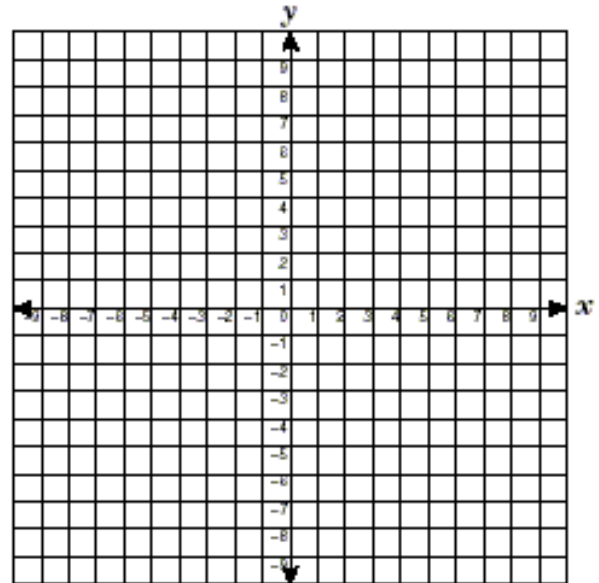x =

y =

y = mx + b

(   ) = (   )(   ) + b
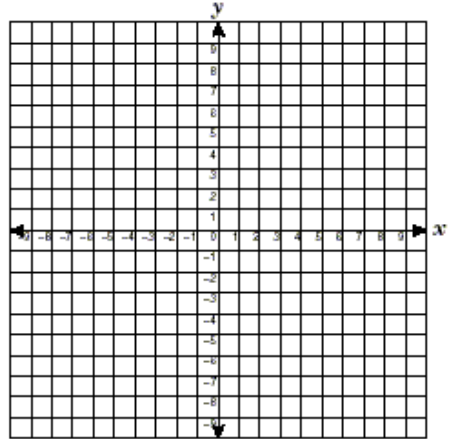
Solve for me

FINAL ANSWER

y = (   )x + (   )

Write an equation in slope-intercept form for the line that passes through (6, -4) and is perpendicular to y = 3x - 5
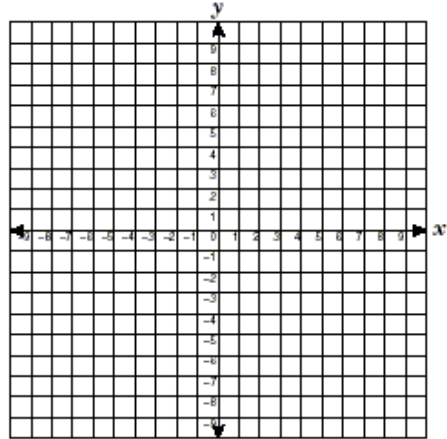
m =

x =

y =

What is an equation of the line that passes through the point $(2,4)$ and is perpendicular to the line whose equation is $3y = 6x + 3$?
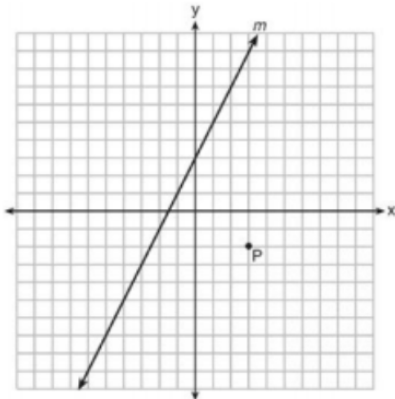
Graph your solution to see if you are correct!

An equation of the line that passes through $(2,-1)$ and is parallel to the line $2y + 3x = 8$ is

Graph your solution to see if you are correct!

Line m and point P are shown in the graph below.

Write the equation of the line that passes through point P and is parallel to line m.