

Section 5.2 Writing Linear Equations Given the Slope and a Point

Writing the equation of a line given the slope and a point can be done with the following steps:

1. Write $y = mx + b$
2. Substitute the point in for x and y and the slope for m .
3. Solve for b .
4. Re-write the equation $y = mx + b$ and substitute the slope and y -intercept in for m and b .

Example: Write the equation of the line with a slope of 3 and going through the point $(-2,0)$.

Step 1: $y = mx + b$

Step 2: $0 = 3(-2) + b$

Step 3: $0 = -6 + b$

$6 = b$

Step 4: $y = 3x + 6$

note: $m = 3$ $(x,y) = (-2,0)$