## Warm-Up Questions:

1. Determine the equation of the line with slope 3 and $y$-intercept 2 .
2. Determine the equation of the line with slope 2.5 and passing through $(50,220)$

Example 1: Write the equation of the line given that it passes through $(1,5)$ and $(4,2)$.
Step 1: $\quad$ Calculate the slope $(m)$ using formula $m=\frac{y_{2}-y_{1}}{x_{2}-x_{1}}$

Step 2: $\quad$ Substitute the slope $(m)$ and one of the points $(x, y)$ into $y=m x+b$ then solve for $y$-intercept (b).

Step 3: $\quad$ Write the equation with slope $(m)$ and $y$-intercept $(b)$. The $x$ and $y$ stay as variables since they change along the line.

Example 2: Write the equation of the line that passes through $(-2,3)$ and $(1,6)$.

Example 3: Write the equation of the line that passes through $(3,1)$ and $(9,-3)$.

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