**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_ Per.\_\_\_\_\_\_\_**

**U6 CW #2** *Write Equations for Lines Given the Slope and a Point*

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| **Example:** Graph the line that passes through the point (2, 3) and has a slope of 1. 11Write the equation of the line that you drew.$$y=x+1$$ | * 1. Graph the line that passes through the point (-1, 5) and has a slope of 2.

Write the equation of the line that you drew. |
| * 1. Graph the line that passes through the point (4, 1) and has a slope of $-\frac{1}{2}$.

Write the equation of the line that you drew. | * 1. Graph the line that passes through the point (-6, 2) and has a slope of $\frac{1}{3}$.

Write the equation of the line that you drew. |

* 1. How did you use the graph to write the equation of the lines above?
	2. Would it be practical to always graph to find the equation? Why or why not?
	3. Brainstorm ideas on how you could write the equation of the line without graphing when you are given a point and the slope. Consider how you could use the equation to find the *y*-intercept if you know the slope and a point on the line. Using an example from the previous page may help you work through the process.

**Directions:** Find the equation of the line that passes through the given point with the given slope.

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| * 1. Through ($-$1, $-$6); *m* = 4
1. Through (4, $-$1); *m* = $\frac{3}{2}$
2. Through (3, 5); *m* = undefined
 | 1. Through ($-$3, 4); *m* = $-\frac{2}{3}$
2. Through (3, 2); *m* = 1
3. Through (3, $-$4); *m* = 0
 |

1. **Find, Fix, and Justify**: Felipe was asked to write the equation of the line that has a slope of $\frac{1}{3}$ and passes through the point $(6, 4)$. Felipe made a common error and wrote the equation $y=\frac{1}{3}x+4$.

**Describe** Felipe’s error and **write the correct equation** in the space below.

**Directions:** Write the equation of the line. Show your work.

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| --- | --- |
| Equation:$ $ | Equation:$ $ |