**SLOPE INTERCEPT FORM**

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| --- | --- | --- | --- | --- |
| **EQUATION** | x= # | y= # | y = mx + b | y = mx + b |
| **SLOPE** | m =U | m = 0 | m = positive | m = negative |
| **GRAPH** |  |  |  |  |
| **X-INTERCEPT** | x= #  (x, 0) | none | Set y = 0 | Set y = 0 |
| **Y-INTERCEPT** | None | y = #  (0, y) | Set x = 0 | Set x = 0 |

**WRITING EQUATIONS OF LINES:** y = mx + b

*You must always find slope (m) and the y-intercept (b)*

Find Slope:

1. Given slope- Plug in for m
2. Given graph- Find slope using rise/run
3. Given 2 points- Use the equation
4. Parallel lines- Have the same slope
5. Perpendicular Lines- Have negative reciprocal slopes

Find y- intercept:

1. Given (0, y), or y- intercept…..Plug in for b
2. Given graph- Find the point where the line crosses the y- axis
3. Given slope and a point: Plug in m, x, and y and solve for b

**GRAPHING LINEAR EQUATIONS:**

1. Given 2 points: Plot the points and draw the line
2. Given slope and a point: Plot the point, use slope to find a second point, draw the line
3. Given an equation:
   1. Use a table of values ( -2, -1, 0, 1, 2)
   2. Use the x and y intercepts
   3. Use slope and y- intercept