**Slope Fields Example Problem**

Sketch a slope field graph for the following function on the interval -2 < x < 2 and -2 < y < 2

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**Solution**

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| --- | --- | --- | --- | --- | --- |
| **Point**  Fill in chart by plugging in points in the interval into the given equation. Solve for slope (dy/dx) at each of the points. | (-2,-2) | (-2,-1) | (-2,0) | (-2,1) | (-2,2) |
| **Slope** | -1 | -1.5 | -2 | -2.5 | -3 |

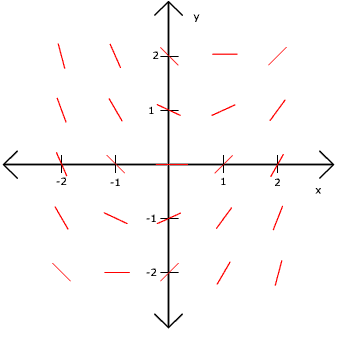
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Point** | (-1,-2) | (-1,-1) | (-1,0) | (-1,1) | (-1,2) |
| **Slope** | 0 | -0.5 | -1 | -1.5 | -2 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Point** | (0,-2) | (0,-1) | (0,0) | (0,1) | (0,2) |
| **Slope** | 1 | 0.5 | 0 | -0.5 | -1 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Point** | (1,-2) | (1,-1) | (1,0) | (1,1) | (1,2) |
| **Slope** | 2 | 1.5 | 1 | 0.5 | 0 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Point** | (2,-2) | (2,-1) | (2,0) | (2,1) | (2,2) |
| **Slope** | 3 | 2.5 | 2 | 1.5 | 1 |

We now draw the slope field by plotting small line segments centered at the given point with the slope we solved for:



Graph and table from <http://www.ltcconline.net/greenl/courses/106/ApproxOther/slopeFields.htm>