**Parent Function Graphic Organizer**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **What is a** [**parent function**](http://www.virtualnerd.com/algebra-2/linear-equations-functions/transformations-parent-functions/parent-functions/parent-function-definition)**?** | | | | | |
|  | | | | | |
| **Name** | **Parent Function Equation** | **Graph** | **Domain & Range** | [**Key Characteristics\***](http://mathbitsnotebook.com/Algebra1/FunctionGraphs/FNGFunctionFeatures.html) | **Table of Values** |
| [Constant](http://www.virtualnerd.com/algebra-2/linear-equations-functions/transformations-parent-functions/parent-functions/constant-function-definition) |  |  |  |  | |  |  | | --- | --- | | *x* | *f(x)* | |  |  | |  |  | |  |  | |  |  | |  |  | |  |  | |
| [Linear](http://www.virtualnerd.com/algebra-2/linear-equations-functions/transformations-parent-functions/parent-functions/what-is-a-linear-function) (stop at 1:55) |  |  |  |  | |  |  | | --- | --- | | *x* | *f(x)* | |  |  | |  |  | |  |  | |  |  | |  |  | |  |  | |
| [Quadratic](http://www.virtualnerd.com/algebra-2/linear-equations-functions/transformations-parent-functions/parent-functions/graph-parent-function) |  |  |  |  | |  |  | | --- | --- | | *x* | *f(x)* | |  |  | |  |  | |  |  | |  |  | |  |  | |  |  | |

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| --- | --- | --- | --- | --- | --- |
| **Name** | **Parent Function Equation** | **Graph** | **Domain & Range** | [**Key Characteristics\***](http://mathbitsnotebook.com/Algebra1/FunctionGraphs/FNGFunctionFeatures.html) | **Table of Values** |
| [Cubic](http://www.virtualnerd.com/algebra-2/linear-equations-functions/transformations-parent-functions/parent-functions/parent-cubic) |  |  |  |  | |  |  | | --- | --- | | *x* | *f(x)* | |  |  | |  |  | |  |  | |  |  | |  |  | |  |  | |
| [Square Root](https://www.mathsisfun.com/sets/function-square-root.html) |  |  |  |  | |  |  | | --- | --- | | *x* | *f(x)* | |  |  | |  |  | |  |  | |  |  | |  |  | |  |  | |
| [Cube Root](http://www.analyzemath.com/Graphing/graphing_cube_root_funct.html) |  |  |  |  | |  |  | | --- | --- | | *x* | *f(x)* | |  |  | |  |  | |  |  | |  |  | |  |  | |  |  | |
| [Absolute Value](http://www.virtualnerd.com/algebra-2/linear-equations-functions/absolute-value-piecewise-functions/absolute-value/What-is-an-Absolute-Value-Function) (stop at 1:45) |  |  |  |  | |  |  | | --- | --- | | *x* | *f(x)* | |  |  | |  |  | |  |  | |  |  | |  |  | |  |  | |
| **Name** | **Parent Function Equation** | **Graph** | **Domain & Range** | [**Key Characteristics\***](http://mathbitsnotebook.com/Algebra1/FunctionGraphs/FNGFunctionFeatures.html) | **Table of Values** |
| [Exponential](https://www.youtube.com/watch?v=1L94pSEqf-g)  (growth) |  |  |  |  | |  |  | | --- | --- | | *x* | *f(x)* | |  |  | |  |  | |  |  | |  |  | |  |  | |  |  | |
| [Exponential](https://www.youtube.com/watch?v=1L94pSEqf-g)  (decay) |  |  |  |  | |  |  | | --- | --- | | *x* | *f(x)* | |  |  | |  |  | |  |  | |  |  | |  |  | |  |  | |
| [Reciprocal](https://www.mathsisfun.com/sets/function-reciprocal.html) |  |  |  |  | |  |  | | --- | --- | | *x* | *f(x)* | |  |  | |  |  | |  |  | |  |  | |  |  | |  |  | |

\*Key characteristics refers to intervals where the function is increasing or decreasing, constant, positive, or negative. It also refers to relative maximums and minimums, symmetries, and end behavior.