Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_HWK Basic Functions revisited. Hour\_\_\_\_\_\_\_\_

|  |  |  |  |
| --- | --- | --- | --- |
| Parent Linear Function$$y=x$$ | Parent Quadratic Function$$y=x^{2}$$ | Parent Cubic Function$$y=x^{3}$$ | Parent nth power Function$$y=x^{n}$$ |
| Parent Square Root Function$$y=\sqrt{x}$$ | Parent Cube Root Function$$y=\sqrt[3]{x}$$ | Parent nth Root Function$$y=\sqrt[n]{x}$$ | Parent natural base Function$$y=e^{x}$$ |
| Parent base 10 Function$$y=10^{x}$$ | Parent base b Function$$y=b^{x}$$ | Parent natural base LOG Function$$y=ln⁡(x)$$ | Parent common base LOG Function$$y=log\_{10}x$$ |
| Parent base b LOG Function$$y=log\_{b}x$$ | Parent Reciprocal Function$$y=\frac{1}{x}$$ | Parent Absolute Value Function$$y=|x|$$ | Parent Greatest Integer Function$$y=int(x)$$ |
| Parent Logistic Function$$y=\frac{1}{1+e^{-x}}$$ | Parent Sine Function$$y=sin⁡(x)$$ | Parent Cosine Function$$y=cos⁡(x)$$ | Parent Tangent Function$$y=tan⁡(x)$$ |

I expanded our list to the TWENTY most basic functions that you would encounter in a PRE-CALCULUS COURSE

|  |  |  |  |
| --- | --- | --- | --- |
| Parent Linear Function$$y=x$$ | Parent Quadratic Function$$y=x^{2}$$ | Parent Cubic Function$$y=x^{3}$$ |  |
| Parent Square Root Function$$y=\sqrt{x}$$ |  |  | Parent natural base Function$$y=e^{x}$$ |
|  |  | Parent natural base LOG Function$$y=ln⁡(x)$$ |  |
|  | Parent Reciprocal Function$$y=\frac{1}{x}$$ | Parent Absolute Value Function$$y=|x|$$ | Parent Greatest Integer Function$$y=int(x)$$ |
| Parent Logistic Function$$y=\frac{1}{1+e^{-x}}$$ | Parent Sine Function$$y=sin⁡(x)$$ | Parent Cosine Function$$y=cos⁡(x)$$ |  |

ANSWER the questions below using the NON-highlighted functions first

 

Now investigate the same questions using ONLY the highlighted functions

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  | Parent nth power Function$$y=x^{n}$$ |
|  | Parent Cube Root Function$$y=\sqrt[3]{x}$$ | Parent nth Root Function$$y=\sqrt[n]{x}$$ |  |
| Parent base 10 Function$$y=10^{x}$$ | Parent base b Function$$y=b^{x}$$ |  | Parent common base LOG Function$$y=log\_{10}x$$ |
| Parent base b LOG Function$$y=log\_{b}x$$ |  |  |  |
|  |  |  | Parent Tangent Function$$y=tan⁡(x)$$ |



[DESMOS LINK](https://www.desmos.com/calculator/qbpl3d1fhc)