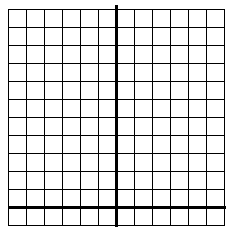
**4.5 Exponential Equations (A.CED.2)**

Exponential functions have a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ with an exponent *x*. The base is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ for the function.

Here is an example of a basic exponential function.





|  |  |
| --- | --- |
| *x* | *f*(*x*) |
| -2 |  |
| -1 |  |
| 0 |  |
| 1 |  |
| 2 |  |

Find the y-intercept.: ( , ).

End behavior:

As x 🡪 ∞ y 🡪 \_\_\_\_\_\_\_\_.

As x 🡪 -∞ y 🡪 \_\_\_\_\_\_\_\_.

Try the following:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | *x* | *f*(*x*) | | -2 |  | | -1 |  | | 0 |  | | 1 |  | | 2 |  | |  | y-intercept: ( , )    As x🡪 ∞ y🡪 \_\_\_\_\_\_\_\_.  As x🡪 -∞ y🡪 \_\_\_\_\_\_\_\_.  Increasing or decreasing? |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | *x* | *f*(*x*) | | -2 |  | | -1 |  | | 0 |  | | 1 |  | | 2 |  | |  | y-intercept: ( , )    As x🡪 ∞ y🡪 \_\_\_\_\_\_\_\_.  As x🡪 -∞ y🡪 \_\_\_\_\_\_\_\_.  Increasing or decreasing? |