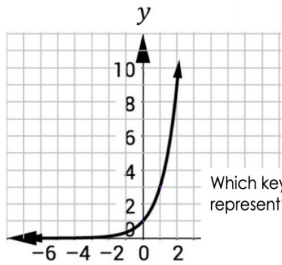


Let's review what we learned in the previous video about exponential functions.

Consider an exponential function written in the form

$$f(x) = a \cdot b^x$$

$$f(x) = 1 \cdot 3^x$$



Which key feature of the exponential function does the  $a$  term represent?

- x-intercept
- y-intercept
- common ratio

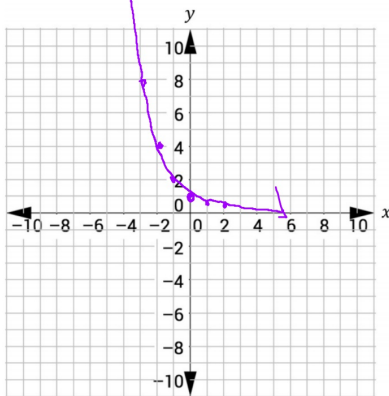
Which key feature of the exponential function does the  $b$  term represent?

- x-intercept
- y-intercept
- common ratio

2. Consider the exponential equation  $y = \left(\frac{1}{2}\right)^x$ .

$$f(x) = 1 \cdot \left(\frac{1}{2}\right)^x$$

a. Sketch the graph of the exponential equation.



b. Is the graph increasing or decreasing? c. Describe the end behavior of the graph.

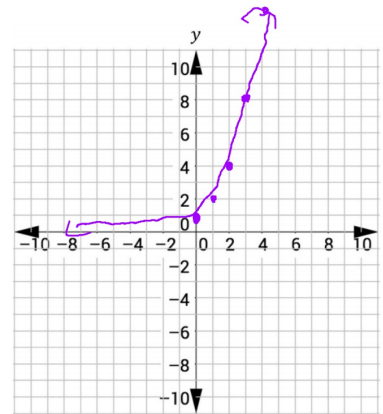
decreasing

As  $x$  increases,  $y$  approaches 0  
As  $x$  decreases,  $y$  increases

1. Consider the exponential equation  $y = 2^x$ .

$$f(x) = 1 \cdot 2^x$$

a. Sketch the graph of the exponential equation.



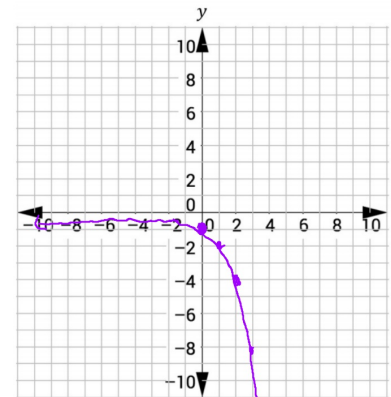
b. Is the graph increasing or decreasing? c. Describe the end behavior of the graph.

increasing

As  $x$  increases,  $y$  increases  
As  $x$  decreases,  $y$  approaches 0

3. Consider the exponential equation  $y = -2^x$ .

a. Sketch the graph of the exponential equation.



$$f(x) = -1 \cdot 2^x$$

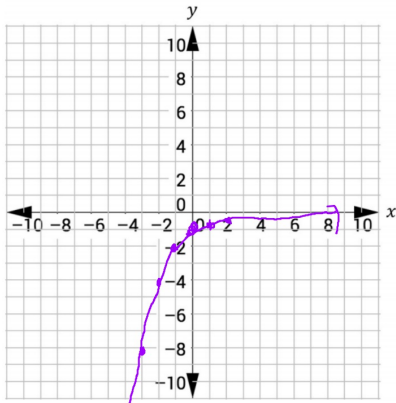
b. Is the graph increasing or decreasing? c. Describe the end behavior of the graph.

decreasing

As  $x$  increases,  $y$  decreases  
As  $x$  decreases,  $y$  approaches 0

4. Consider the exponential equation  $y = -\left(\frac{1}{2}\right)^x$ .

a. Sketch the graph of the exponential equation.  $f(x) = -1\left(\frac{1}{2}\right)^x$



b. Is the graph increasing or decreasing? c. Describe the end behavior of the graph.

increasing

As  $x$  increases,  $y$  approaching 0

As  $x$  decreases,  $y$  decreasing