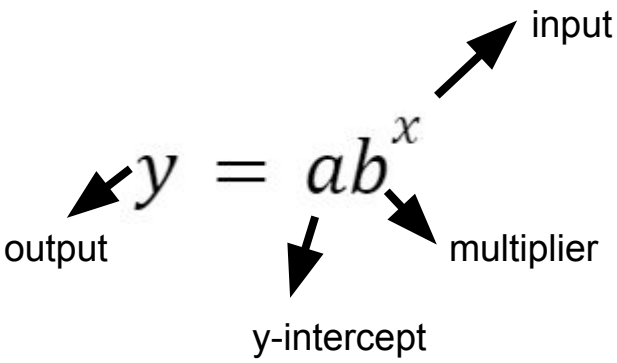
Exponential Functions Notes

Important Information

- An exponential function is a function in the form $y = ab^x$

  where b>0, b≠1, and a≠0.

- All exponential functions in this form have the x-axis as an asymptote because y≠0.



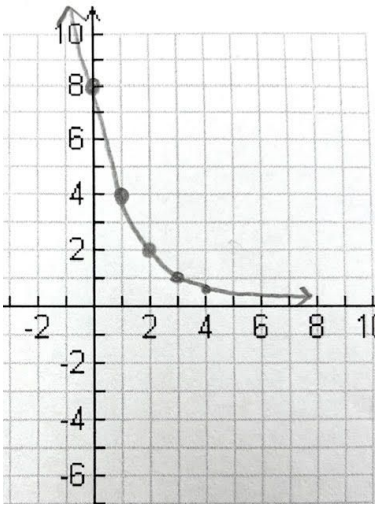
Example:

Equation: $y = 8(\frac{1}{2})^x$

Table:

x	y
-1	16
0	8
1	4
2	2
3	1
4	1/2

Graph:



Things to Remember!

- In the equation $y = ab^x$ a is the y-intercept and b is the multiplier.
- For values of b>1 the graph increases exponentially.
- When 0<b<1 the graph decreases and this is called exponential decay (sometimes referred to as half-life).

More Examples:

Create your own equation. Make sure your y-intercept is between 1 and 10 (so that it fits on your graph).

Make a table for it (must have at least 4 points listed on your table).

Graph your equation (must have at least 2 points on your graph).