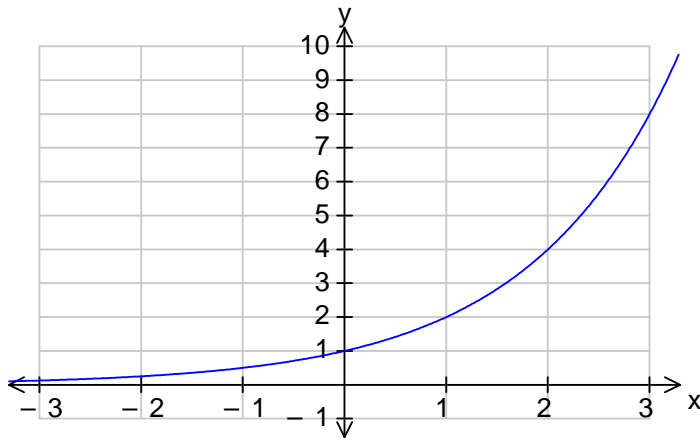


## Exponential Function

An exponential graph is in the form  $y = a^x$

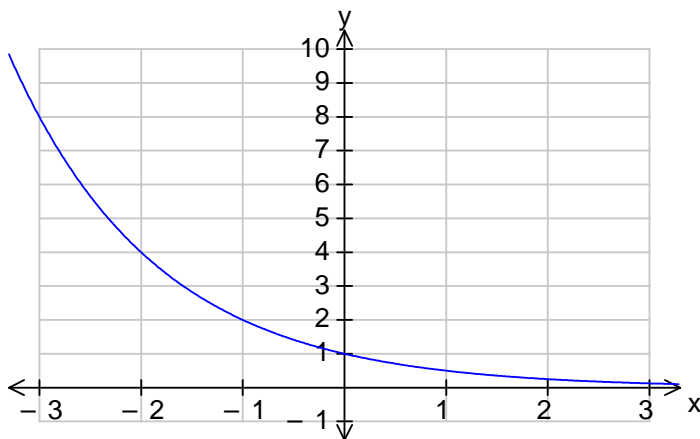
*Example 1. Draw the graph of  $y = 2^x$*



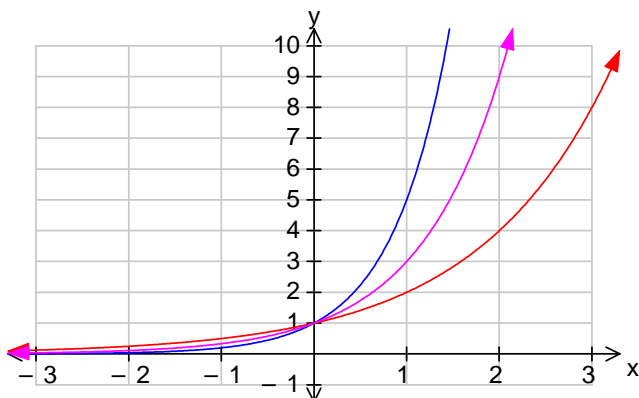
This is what the exponential graph always looks like when  $a > 0$ . The x-axis is an asymptote and the graph always passes through the point (0,1)

An exponential graph in the form  $y = a^x$  where  $(0 < a < 1)$  is the reflection of the normal exponential graph in the y axis. It still passes through the point (0,1) but it goes the other way.

*Example 2. Draw the graph of  $y = 0.5^x$*

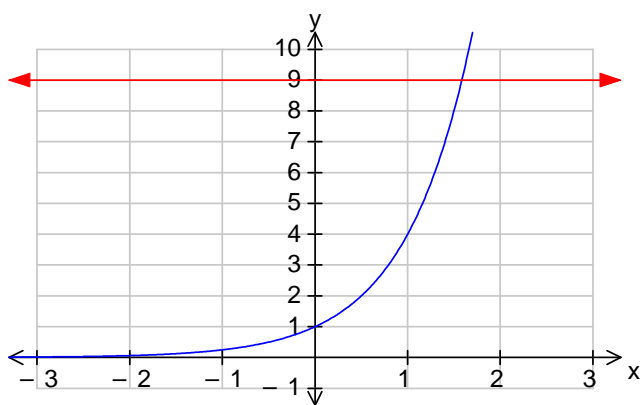


As the value of a gets bigger the graph gets steeper



## Solving an equation using your graph

Example 1. Solve  $4^x = 9$  using a graph



$x =$  approximately 1.5 according to the graph