

Exponential Functions 11-2

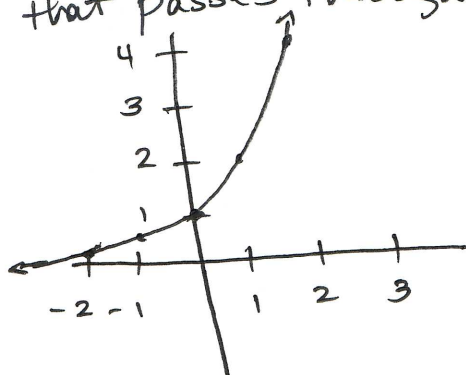
$$f(x) = b^x$$

$x \rightarrow$ variable exponent
 $b \rightarrow$ a constant

If $b > 0$ then b^x is defined for all rational values of x .
 If $b > 0$ and x is irrational, then $b^x \approx b^r$ where r is a rational number obtained by rounding off x to a finite number of decimal places.

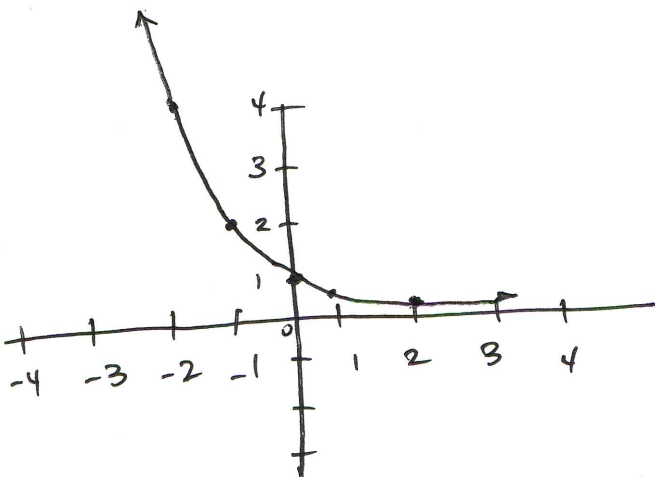
Ex. $b^\pi \approx b^{3.14}$

The graph of b^x where b is a positive constant is a curve that passes through the point $(0, 1)$. $b^0 = 1$ $x=0, y=1$



x	y
-2	.25
-1	.5
0	1
1	2
2	4

$$y = 2^x$$



x	y
-2	4
-1	2
0	1
1	1/2
2	1/4

$$y = \frac{1}{2}^x$$

