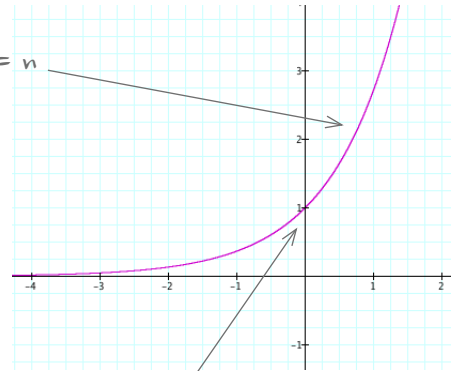


Exponents

Parent function: $y = n^x$

- "Base point": $(0, 1)$
- Passes through $(1, n)$
- Asymptote: $y = 0$ (i.e., x axis)
- Domain: \mathbb{R}
Range: $(0, \infty)$

Remember that $n^1 = n$



Remember that
 $n^0 = 1$
regardless of the value of n .

General equation: $y = a \cdot n^{b(x-h)} + k$

- a = vertical scale; negative flips vertically around the x-axis.
- b = horizontal scale; negative flips horizontally around y-axis

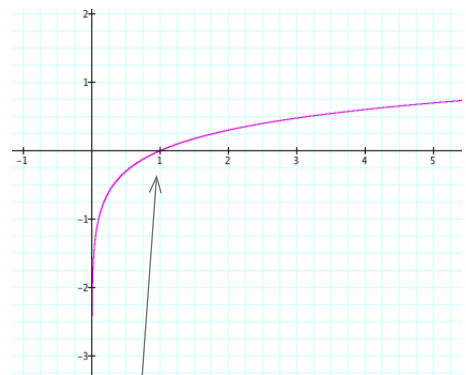
Logarithms

Parent function: $y = \log_n(x)$

- "Base point": $(1, 0)$
- Passes through $(n, 1)$
- Asymptote: $x = 0$ (i.e., y axis)
- Domain: $(0, \infty)$
Range: \mathbb{R}

General equation: $y = a \cdot \log_n b(x-h) + k$

- h, k = horizontal, vertical offsets
- a = vertical scale; negative flips vertically around x-axis
- b = horizontal scale; negative flips horizontally around y-axis



Note that
 $\log(1) = 0$
regardless of the base.