

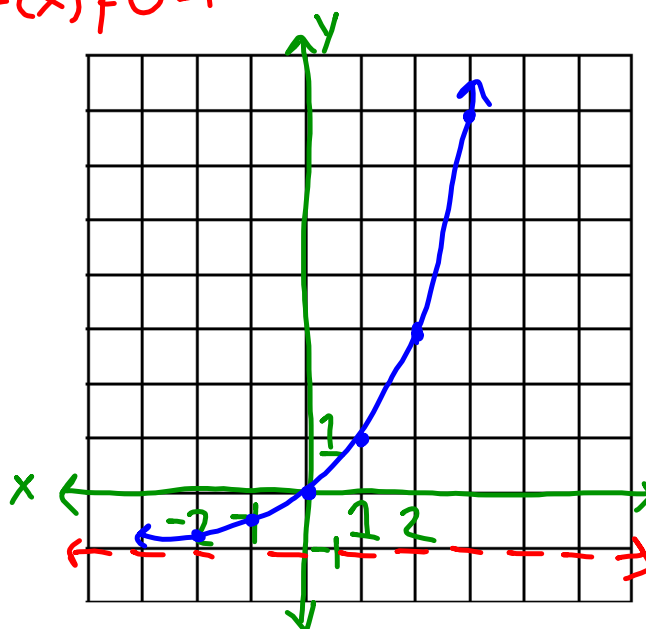
Graph the function: $f(x) = 2^x - 1$

Domain: All Real #s $f(x) \neq 0 - 1$

Range: $y > -1$

Asymptote: $y = -1$

x	y
-2	$-.75 (-\frac{3}{4})$
-1	$-.5 (-\frac{1}{2})$
0	0
1	1
2	3
3	7



Logarithms:

A log is a special way to ask a specific question.

"log base b of a equals x "

$$\log_b a = x$$

base = b

exponent = x

What exponent (x) is required for base b to get to a ?

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What exponent (x) is required for base b to get to a ?

$$b^x = a$$

$$\log_b a = x \iff b^x = a$$

$$\log_{(4)} 64 = (x)$$

$$4^x = 64$$

$$x = 3$$

$$\log_{10} 0.01 = x$$

$$10^x = \frac{1}{100} \quad x = -2$$

$$\log_{(64)} 2 = x$$

$$64^x = 2 \quad x = \frac{1}{6}$$

$$\log_{(4)} (16) = (x)$$

$$4^x = 16 \quad x = 2$$

$$\log_5 125 = x$$

$$5^x = 125$$

$$\log_5 5^3 = x \quad x = 3$$

$$\log_{64} 2 = x$$

$$64^x = 2$$

$$x = \frac{1}{6}$$

$$\log_{343} 7 = x$$

$$343^x = 7 \quad x = \frac{1}{3}$$

$$\log_6 216 = x$$

$$6^x = 216 \quad x = 3$$

$$\log_6 6^3 = x \quad x = 3$$

$$\log_6 6^3 + \log_4 4^2 = x$$

$$3 + 2 = 5$$

$$\log_6 6 - \log_4 4 - \log_2 2 = x \quad x = -1$$

$$1 - 1 - 1 = -1$$

$$\log_3 3 \times \log 1 = x \quad x = 0$$

$$1 \times 1^0 = 1 \quad 1 \times 0 = 0$$

$$\log_4 a = 2$$

$$a = 16$$

$$\log_{16} a = 3$$

$$a = 1000$$

$$\log_8 a = 2$$

$$a = 64$$

$$\log_2 a = 5$$

$$a = 32$$

Logarithmic Bingo Partners

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