Equation of a Line From a Table (Exponential)

x	y
0	2
1	6
2	18

Exponential Functions are written in the form $y = a \bullet b^x$

Step 1: Determine the value of a

To find a, plug in the point with an x-coordinate of 0 to cancel out the b

$2 = a \bullet b^0$

$2 = a \bullet 1$

$a = 2$

Step 2: Determine the value of b

To find b, use the value of a and plug in a different point from the one used to find a

$6 = 2 \bullet b^1$

$6 = 2b$

$b = 3$

$y = 2 \bullet 3^x$

Practice Problems

Find the equation of the exponential functions given the following tables

a.

x	y
0	5
1	10
2	20

b.

x	y
0	16
1	4
2	1

c.

x	y
0	1.5
1	4.5
2	13.5

d.

x	y
0	7
1	3.5
2	1.75

Solutions: a. $y=5(2)^x$ b. $y=16(0.25)^x$ c. $y=1.5(3)^x$ d. $y=7(0.5)^x$

Researched & Developed by: Pi-Rates Add to your knowledge