

Linear vs. Exponential

Graphic Organizer

A simple, thorough graphic organizer for students to fill out and use as a reference page. Compare equations, tables, graphs, and the domain/range of linear and exponential functions side by side.

CCSS Alignment

HSF.IF.C.7, HSF.IF.C.7a, HSF.IF.C.7e, HSF.IF.C.9
HSF.LE.A.1, HSF.LE.A.1a, HSF.LE.A.3



Teacher Guide

Unit	Exponential Functions
Concepts	Students will: <ul style="list-style-type: none">• Compare the equations of linear and exponential functions.• Recognize key differences in the tables and graphs of linear and exponential functions.• Compare the domain/range of a linear and an exponential function.
Common Core Standards	HSF.IF.C.7, HSF.IF.C.7a, HSF.IF.C.7e, HSF.IF.C.9 HSF.LE.A.1, HSF.LE.A.1a, HSF.LE.A.3
Suggested Use	After students have mastered linear functions and I've introduced exponential functions, I use this as a review so that students see the differences side by side. They keep these notes and use them as a reference throughout the unit.
Related Products	I'm working hard to complete my Exponential Functions unit. Please visit my store for more activities!



Linear Functions vs. Exponential Functions

$$y = \square x + \square$$

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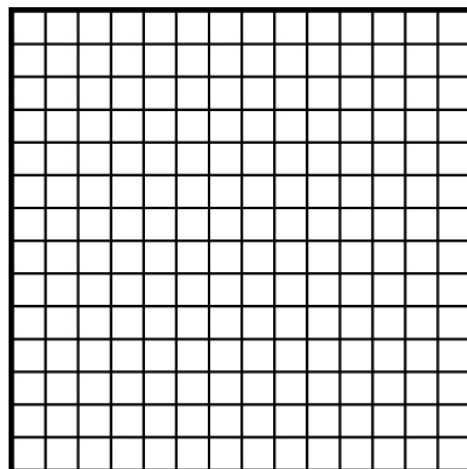
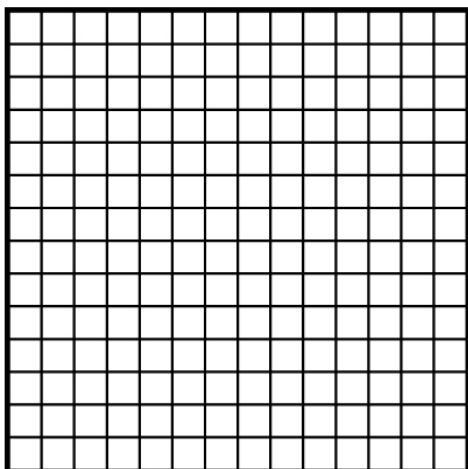
$$y = \square (\square)^x$$

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x	y = 3x + 2	y



x	y = 2(3) ^x	y



Domain
Range

Domain
Range

Name Sample

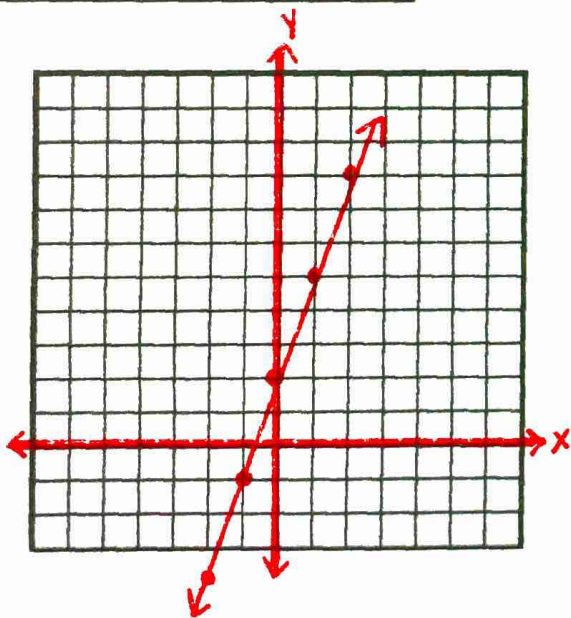
Linear Functions vs. Exponential Functions

$$y = m x + b$$

- Slope
- rate of change
- y-intercept
- initial value

x	$y = 3x + 2$	y
-2	$3(-2) + 2$	-4
-1	$3(-1) + 2$	-1
0	$3(0) + 2$	2
1	$3(1) + 2$	5
2	$3(2) + 2$	8

) +3
) +3
) +3
) +3
) +3



Domain
all real #s

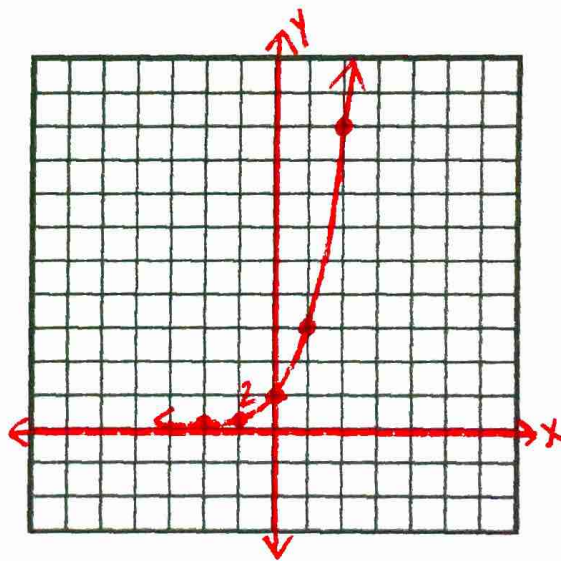
Range
all real #s

$$y = a (b)^x$$

- y-intercept
- initial value
- factor of change

x	$y = 2(3)^x$	y
-2	$2(3)^{-2}$	$\frac{2}{9}$
-1	$2(3)^{-1}$	$\frac{2}{3}$
0	$2(3)^0$	2
1	$2(3)^1$	6
2	$2(3)^2$	18

) •3
) •3
) •3
) •3
) •3



Domain
all real #s

(if $a > 0$) Range
all positive real #s

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